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Table of Contents

Reminiscence Therapy for Older People suffering from Loneliness, Anxiety and Depression: A Review of the Literature

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Abstract

Reminiscence therapy is generally used to treat mental health problems. Reminiscence therapy uses the recall of past events, feelings and thoughts to facilitate pleasure, quality of life or adaptation to present circumstances. Reminiscence therapy is believed to provide numerous benefits to older people, especially those with loneliness, anxiety and depression. The aim of this review was to explore the literature related to reminiscence therapy for older people with loneliness, anxiety and depression. This review considered all types of research design. The inclusion criteria were studies that included older people aged 60 years and over, and outcomes on loneliness, anxiety or depression. A literature search strategy involved published and grey literature. Twenty-four studies met the inclusion criteria. Five key themes were derived from the literature: integration of theories in reminiscence therapy, different classification of reminiscence therapy, factors that may influence reminiscence therapy, the effectiveness of reminiscence therapy and the integration of new elements in reminiscence therapy. Further research in this area is needed in terms of improvement of methodological quality such as rigorous control group and integration of new elements in reminiscence therapy.

Keywords: anxiety, aged, depression, depressive symptoms, loneliness, nursing research, reminiscence

Introduction

With advancing age, older people may develop loneliness, anxiety and depression due to numerous changes in their roles and relationships (Brownie & Horstmanshof, 2011). In Malaysia, the current trends showed increasing of nuclear family (Department of Statistics, 2010) and many older people left alone after their children choose to move out after getting married. Moving to a new place such as a residential aged care facility may become a stressful event to the older people. Older people need to have the skills in making friends and able to socialize with new people (Nancy, Vicki, Douglas, & Amy, 2004). Difficulty in adapting to new environments may increase the possibility of developing loneliness, anxiety and depression.

Loneliness, anxiety and depression in older people are interconnected mental health problems. Loneliness was found as a risk factor for anxiety (Barg et al., 2006) and depression (Alpass & Neville, 2003). Meanwhile, anxiety usually presents with depression, nevertheless some older people also have anxiety without depression (Bryant, Jackson, & Ames, 2008). It was found that anxiety and depression left untreated may increase the risk of developing lower quality of life, several disorders and decrease in life expectancy (Freudenstein, Jagger, Arthur, & Donner-Banzhoff, 2001). Depression is a major health problem in older people, leading to increased risk of suicidal action (Han & Richardson, 2010). The complexity of depressive symptoms due to coexistence of physical problems and misbelief that it is part of the normal aging process may contribute to undiagnosed depression in older people (Mary, Connie, Ebony, & Suzanne, 2008). Therefore, treating loneliness, anxiety and depression among older people is a challenging task to the health care providers.

The options to treat loneliness, anxiety and depression can be classified into pharmacological interventions and non-pharmacological interventions. While pharmacological intervention is common to treat anxiety and depression, loneliness is always treated with psychosocial interventions such as group therapy and counseling. Regarding pharmacological intervention, psychotropic drugs such as tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs) and monoamide oxidase inhibitors were all effective in treating depression among institutionalised older people (Wilson, Mottram, Sivananthan, & Nightingale, 2001). However, pharmacological interventions may provide various adverse effects towards older people (Coupland et al., 2011). It was found that forgetfulness also increased non-compliance to medications among older people (Henriques, Costa, & Cabrita, 2012). Due to all possible risk factors, non-pharmacological intervention such as reminiscence therapy (RT) may be a better option for older people with loneliness, anxiety and depression.

Reminiscence therapy can be defined as a therapy that uses the recall of past memories or stories, feelings and thoughts to facilitate pleasure, quality of life or adaptation to present circumstances (Bulechek, Butcher, & Dochterman, 2008). The benefits of RT include no requirement of new skills (Chen, Li, & Li, 2012), its suitability for older people with cognitive impairments and physical limitations (Hsieh & Wang, 2003). Thus, the present study aimed to review the literature related to reminiscence therapy for older people with loneliness, anxiety and depression.

Methodology

Literature searched strategy

Several keywords with Boolean operators were used to find relevant articles such as 'reminiscence', 'reminiscence therapy', 'older people', 'older adults, 'aged', lonely, 'loneliness', 'anxiety', 'depression' and 'depressive symptoms'. The databases involved were Medline, Cinahl, Pubmed, Cochrane, Scopus, Sciencedirect and PsycInfo. Grey literature such as Google scholar and Proquest database for dissertations and theses also were used to search related articles to the topic of interest. Hand searches of reference lists of retrieved articles also were implemented to ensure all relevant articles had been retrieved. This review was limited to full text articles only. Only articles published from 2002 to 2014 were reviewed in the present study. Only articles published in English or Malay language were selected. The titles and abstracts of identified published articles were screened for topic relevance to identify potentially relevant articles. All of the full text articles were then screened and included or excluded on the basis of the related topic to the study. This review included all types of studies, qualitative or quantitative studies. The population of interest was people aged 60 years and over.

The literature search strategy identified 3364 potentially relevant studies (Figure 1). Based on the irrelevance of title to the topic of interest, 2989 studies were excluded. Due to duplications another 151 studies were discarded, resulting in 224 potential studies. Another 169 studies were omitted as loneliness, anxiety and depression were not the main interest in the study and involved participants younger than 60 years of age. The total number of studies included in the review was 24.
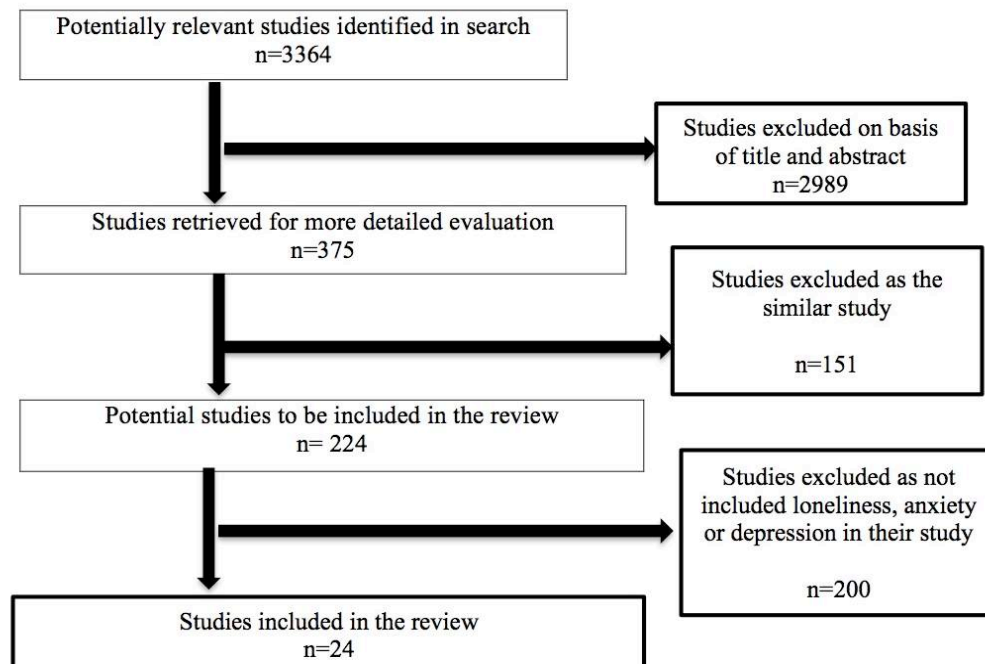
Figure 1 Literature searches strategy

Results

The total number of studies involved in the review was 24 (Table 1). Five themes were found from the literature; (1) Integration of theories in reminiscence therapy; (2) The different classification of reminiscence therapy; (3) Factors that may influence reminiscence therapy, (4) The effectiveness of reminiscence therapy for older people with loneliness, anxiety and depression and (5) The integration of new elements in reminiscence therapy.

Table 1 Summary of selected studies

No	Studies	Country	Design	Sample size	Setting	Result
1.	Chiang et al. (2010)	Taiwan	Experimental	92	A nursing home	A significant positive short-term effect on depression and loneliness in the experimental group than those in the control group.
2.	Emery (2002)	USA	Experimental	35	Assisted living facilities	Spiritual reminiscence therapy reported no significant outcome on anxiety and depression.
3.	Housden (2009)	UK	Systematic review	10 studies	Residential aged care facilities	Development of themes in RT • Social interaction • The functions of reminiscence • Purposeful structuring groups & activities • Participants' relationships with group leaders • Expressing feelings
4.	Haslam et al. (2010)	Australia & UK	Experimental	73	Specialized care units	Results indicated that RT group produced effective outcomes and significantly decrease depression.
5.	Shellman, Mokel, and Hewitt (2009)	USA	Experimental	56	Community	Integrative RT has a positive effect on decreasing depressive symptoms in older African Americans.

6.	Afonso, R. M., et al. (2011)	Portugal	Experi mental	90	A health center	Older people with depression showed significant increases in psychological well-being and ego integrity.
7.	Chueh and Chang (2014)	Taiwan	Quasi-experi mental	21	A nursing home	After 4 weeks of RT, the experimental group significantly improved their depression in the post-test, 3 months and 6 months follow-up data compared with the control group.
8.	Hanaoka, Muraki, Yaman e, Shimiz u, and Okamu ra (2011)	Japan	Experi mental	22	Communit y	Geriatric Depression Scale-15 showed significant changes after RT.
9.	Karimi et al. (2010)	Iran	Pre-test and post-test	29	A nursing home	The findings showed that integrative RT led to statistically significant reduction in depression compared to control group. Although instrumental RT also reduced depression, this improvement was not statistically significant compared to the control group.
10.	Sharif, Mansou ri, Jahanbi n, and Zare (2010)	Iran	Quasi-experi mental design	49	A day centre	The depression decreased significantly immediately after the intervention and 1 month after the intervention.

11.	Stinson and Kirk (2006)	USA	Experimental	24	An assisted living facility	Data revealed a non-significant decrease in depression in the RT group
12.	Hsu and Wang (2009)	Taiwan	Quasi-experimental	45	Four long term care facilities	Reminiscence sessions resulted in a significant 2-point decrease in the Geriatric Depression Scale-short form.
13.	Wilson (2006)	USA	Quasi-experimental	45	Two nursing homes	RT effective in decreasing depression scores.
14.	Chao et al. (2006)	Taiwan	Quasi-experimental	24	A nursing home	The effect of group RT on depression was not significant.
15.	Liu, Lin, Chen, and Huang (2007)	Taiwan	Quasi-experimental	26	Community	RT significantly lessened loneliness among older people who are living alone. The reduction in depression levels did not reach statistical significance.
16.	Willemse, Depla, and Bohlmeijer (2009)	The Netherlands	Quasi-experimental	36	Three psychiatric hospitals and one sheltered housing program	Older people with a psychotic problem showed their depressive symptoms increased significantly after RT.
17.	Bohlmeijer, Smit, and Cuijpers (2003)	The Netherlands	Meta-analysis	20 studies	Community, nursing homes, hospital	Reminiscence therapy is potentially effective treatments for depression in older people.
18.	Webster, Bohlmeijer, and Westerhof (2010)	Canada The Netherlands	Review	Not applicable	Not applicable	The review found that there is a gap in RT in terms: • Lack of conceptual clearness • The inconsistent evidence of the therapeutic

					effects of RT
					• Lack of rigorous experimental design
					• Numerous studies focused on empirical knowledge that commonly presented with inadequate theoretical connections.
19.	Meléndez Moral, Fortuna Terrero, Sales Galán, and Mayordomo Rodríguez (2014)	Republic Dominican	Quasi-experimental	34	Community	Integrative RT demonstrated statistically significant reduction in depression
20.	Meléndez-Moral, Charco-Ruiz, Mayordomo-Rodríguez, and Sales-Galán (2013)	Spain	Quasi-experimental	34	Two retirement homes	RT significantly reduced depression.
21.	Zhou et al. (2012)	China	Experimental	125	Community	Geriatric Depression Scale decreased significantly in experimental group than in control group after six weeks intervention.

22.	Wang (2005)	Taiwan	Quasi-experimental	48	Long-term care facilities	The results indicated that the experimental group reported less depression on the post-test comparing to the control group.
23.	Ghanbarpanah, Khoshknab, and Mohammadi Shahbalaghi (2014)	Iran	Experimental	72	An institution for older people	Depression level decreased significantly in experimental group.
24.	Gaggioli et al. (2013)	Italy	Experimental	32	Social senior centres	The finding showed that the older people reported significantly less loneliness.

Note: RT: Reminiscence Therapy; UK: The United Kingdom; US: United State of America

Discussion

Integration of theories in Reminiscence Therapy
In relation to the literature search, three different theories have been integrated in RT such as Social identity theory (Haslam et al., 2010); Cognitive adaptation theory (Shellman et al., 2009); and Erikson's theory (Emery, 2002; Stinson & Kirk, 2006).

From a social identity theory perspective, RT helps preserve the social identity and well-being of older people. It was found that RT delivered in a group situation facilitated participants' well-being and social identity (Haslam et al., 2010). A cognitive adaptation perspective suggests that RT could assist older people to reframe their life events from undesirable feelings to better ways of thinking and feeling about them and was significantly effective in reducing depression (Shellman et al., 2009).

Other studies integrated Erikson's theory in RT (Emery, 2002; Stinson & Kirk, 2006), proposing that RT was beneficial for older people to achieve ego-integrity by reducing feelings of anxiety and depression. This was supported in two studies of older people with anxiety (Emery, 2002) and depression (Emery, 2002; Stinson & Kirk, 2006), however no study that integrated Erikson's theory had specifically targeted older people with loneliness.

The particular theory underpinning RT mainly depended on the study purposes. For example, Erikson's theory may be a suitable theory if the main objective of RT was to reduce feelings of anxiety and depression by helping older people to accept their previous life events. Social identity theory might be useful for a study focused on using RT in increasing social interaction for older people with loneliness.

Different classification of Reminiscence Therapy

Three types of RT have been identified as simple reminiscence, life review and life review therapy (Webster et al., 2010). Simple reminiscence is unstructured, spontaneous reminiscence with the aim to improve social wellbeing of older people (Webster et al., 2010). It is mainly for those with low levels of stress to encourage social interaction and to improve quality of life. Life review is more structured compared to simple reminiscence and focused on positive and negative life experiences. The more advanced life review is called life review therapy. This type of therapy focused on people with severe anxiety and severe depression in order to decrease these symptoms.

Although some studies tend to use life review and reminiscence interchangeably, the definition of life review is definitely different from RT. Life review is a subcategory of RT itself and can be conducted when dealing with a problem (Stinson & Kirk, 2006). The similarity of life review and reminiscence is the recall of past memories. The life review therapy is developed to be psychotherapeutic for people who are severely depressed or anxious (Webster et al., 2010).

From this review, it was also found that some studies implemented different types of RT. For example, integrative RT was integrated in several studies (Karimi et al., 2010; Meléndez Moral et al., 2014; Shellman et al., 2009). By definition, integrative RT reviews the past events regardless of negative or positive events (Wong & Watt, 1991). Meanwhile, instrumental RT has been compared with integrative RT in a study for older people with depression (Karimi et al., 2010). Instrumental reminiscence can be defined as how past events have been resolved (Wong & Watt, 1991). In summary, integrative RT was found to be significantly effective in reducing depression whereas instrumental RT was not significant in reducing depression.

Factors that may influence Reminiscence Therapy

Sociodemographic factors are believed to influence the effectiveness of RT. These factors include age, gender, ethnicity and personality (Webster et al., 2010). In relation to age, older people may more frequently reminiscence than younger age groups (Webster et al., 2010). The influence of gender in RT outcomes is inconclusive, mainly due to differences of methodological approaches and measurements (Webster et al., 2010).

Since a number of studies were conducted in western countries and only a few studies conducted in Asian countries, it is challenging to discuss the impact of ethnicity on reminiscence therapy. Although not many studies conducted on the impact of ethnicity to RT, it was found in China, for instance, RT is preferable in unisex groups for several reasons. It was found that female older people felt uncomfortable to share

their stories in the presence of men and only shared their opinions in the absence of men (Chong, 2000). It was also difficult to retain the participation of men in the group if only a few of them were in attendance (Chong, 2000). This factor needs further exploration in future studies.

Another sociodemographic factor is personality. Introverted and extroverted personality required different reminiscence approaches (Webster et al., 2010). To elaborate, sharing memories was more difficult for those with introverted personalities than extroverted personality (Webster et al., 2010). Further, the effectiveness of RT might not be influenced by living arrangements. It was found that living alone did not influence the effectiveness of RT for older people with depression (Liu et al., 2007).

It is unclear about the influence of time duration for RT. The effect of RT duration is inconclusive and studies of between four to 16 weeks duration were found to be effective
(Afonso, Bueno, Loureiro, & Pereira, 2011; Chiang et al., 2010; Chueh & Chang, 2014, Gaggioli et al., 2013, Ghanbarpanah et al., 2014; Hanaoka et al., 2011; Haslam et al., 2010; Hsu & Wang, 2009; Karimi et al., 2010; Liu et al., 2007; Meléndez-Moral et al., 2013; Meléndez Moral et al., 2014; Sharif et al., 2010; Shellman et al., 2009; Stinson & Kirk, 2006; Wang, 2005; Wilson, 2006; Zhou et al., 2012).

The effectiveness of Reminiscence Therapy for Older People with Loneliness, Anxiety and Depression
The effectiveness of Reminiscence Therapy for older people with Loneliness
Since loneliness often overlooked, only three studies were published regarding the effectiveness of RT for older people with loneliness. These three studies found that RT significantly lessened the feelings of loneliness (Chiang et al., 2010; Gaggioli et al., 2013; Liu et al., 2007). Although these studies were conducted in different settings, RT showed its effectiveness for older people who live alone (Liu et al., 2007), who live in institution (Chiang et al., 2010) and who live in community (Gaggioli et al., 2013). These two studies shared similar characteristics; that is, each used UCLA Loneliness Scale to measure outcomes and the same RT duration (ten weeks to two months) (Chiang et al., 2010; Liu et al., 2007). The implementation of different scales (Seniors' perceived levels of loneliness) and shorter RT duration (three weeks) were reported in another study, however, no control condition was implemented (Gaggioli et al., 2013).

A rigorous study design is recommended as with previous studies that used a waiting list control group (Chiang et al., 2010) and active control group (Liu et al., 2007), to differentiate the effects of RT from the effects of social interaction and the social group (Haslam et al., 2010). It is also important to highlight that asking for feedback after RT may provide further information about the effectiveness of RT to the facilitator. One study reported feedback from the participants after RT (Liu et al., 2007). After completed RT, most of older people said they felt happy and less lonely (Liu et al., 2007). Thus, it showed that rigorous control group and feedback after RT is needed in future RT study for older people with loneliness.

The effectiveness of Reminiscence Therapy for older people with Anxiety

Regarding RT for older people with anxiety, there are inadequate sources available to conclude the findings. It was found that only two studies conducted on the effectiveness of RT for older people suffering from anxiety (Emery, 2002; Haslam et al., 2010). Of two studies, only one study found that RT is effective in reducing anxiety in older people (Haslam et al., 2010). It is difficult to conclude that RT in general is effective for older people with anxiety due to different types of RT used in these two studies. In Haslam et al. (2010), group RT was compared to individual RT while Emery (2002) compared spiritual reminiscence therapy group, RT group and a control group. Since there were very limited studies on RT and anxiety, it is difficult to draw conclusion about RT and anxiety.

The effectiveness of Reminiscence Therapy for older people with Depression

A number of previous studies examined the effectiveness of RT for older people with depression (Afonso et al., 2011; Chao et al., 2006; Chiang et al., 2010; Chueh & Chang, 2014; Emery, 2002; Ghanbarpanah et al., 2014; Hanaoka et al., 2011; Haslam et al., 2010; Hsu & Wang, 2009; Karimi et al., 2010; Liu et al., 2007; Meléndez-Moral et al., 2013; Meléndez Moral et al., 2014; Sharif et al., 2010; Stinson & Kirk, 2006; Wang, 2005; Willemse et al., 2009; Wilson, 2006; Zhou et al., 2012). The evidence showed that RT is effective for older people suffering from depression (Afonso et al., 2011; Chiang et al., 2010; Chueh & Chang, 2014; Emery, 2002; Ghanbarpanah et al., 2014; Hanaoka et al., 2011; Haslam et al., 2010; Hsu & Wang, 2009; Karimi et al., 2010; Liu et al., 2007; Meléndez-Moral et al., 2013; Meléndez Moral et al., 2014; Sharif et al., 2010; Stinson & Kirk, 2006; Wang, 2005; Wilson, 2006; Zhou et al., 2012). RT also was found to be clinically effective for older people with depression in a meta-analysis study (Bohlmeijer et al., 2003).

However, three further studies found that RT was not significantly effective for older people with depression (Chao et al., 2006; Emery, 2002; Willemse et al., 2009). One of the factors that influenced these results was a higher dropout rate due to the duration of the intervention (Chao et al., 2006). In one of these studies RT conducted over nine weeks led to an increase in depression level among the participants with a psychotic disorder (Willemse et al., 2009).

Another important component that may influence the result of RT for older people with depression is the implementation of rigorous control group. A number of studies have reported the implementation of control group in the RT study. For example; control conditions without any intervention or waiting-list control conditions (Chao et al., 2006; Chiang et al., 2010; Chueh & Chang, 2014; Emery, 2002; Meléndez-Moral et al., 2013; Meléndez Moral et al., 2014; Wang, 2005; Wilson, 2006), control group with unknown activities (Afonso et al., 2011; Ghanbarpanah et al., 2014; Haslam et al., 2010; Karimi et al., 2010; Liu et al., 2007; Stinson & Kirk, 2006); control group with regular activities in institutional care (Hsu & Wang, 2009; Liu et al., 2007) and control group with health education (Zhou et al., 2012). Some studies did not use a control group (Hanaoka et al., 2011; Sharif et al., 2010). Employing a rigorous control condition is highly recommended for future studies.

A number of quantitative studies found RT is effective in alleviating depression. It has been suggested that conveying feelings is one of the important findings in RT for older people with depression (Housden, 2009). Thus, qualitative measurement on feelings after RT seems an essential ingredient for understanding the effectiveness of RT from the perspective of older people.

The integration of new elements in reminiscence therapy

It has been suggested that spirituality can offer a significant role in psychotherapy (Abu Raiya & Pargament, 2010). Psychotherapy such as spiritual reminiscence therapy is one way of meeting a persons' spiritual needs (MacKinlay & Trevitt, 2006). Introduction of new elements in RT for older people was reported in Emery (2002). However it is clear that more studies using spiritual reminiscence are needed to examine its effectiveness for older people with loneliness, anxiety and depression.

Conclusion

The selection of theories in RT depends on the study objectives. In the literature search there was no one theory more relevant than others. It was also found that there were several classifications of RT. Several factors that may influence RT were found such as age, gender, ethnicity, personality, living arrangement and time duration. Regarding the effectiveness of RT, it was found that there was limited evidence on the effectiveness of RT for older people with loneliness and anxiety. Conversely, there was strong evidence to support the effectiveness of RT for older people with depression. It was also found that some studies integrated new elements such as spirituality in reminiscence therapy. These elements need further exploration in the future studies.

References

Abu Raiya, H., & Pargament, K. I. (2010). Religiously integrated psychotherapy with Muslim clients: From research to practice. *Professional Psychology: Research and Practice, 41*(2), 181-188. doi: 10.1037/a0017988

Afonso, R. M., Bueno, B., Loureiro, M. J., & Pereira, H. (2011). Reminiscence, Psychological Well-Being, and Ego Integrity in Portuguese Elderly People. *Educational Gerontology, 37*(12), 1063-1080. doi: 10.1080/03601277.2010.500585

Alpass, F. M., & Neville, S. (2003). Loneliness, health and depression in older males. *Aging & Mental Health, 7*(3), 212-216. doi: 10.1080/1360786031000101193

Barg, F. K., Huss-Ashmore, R., Wittink, M. N., Murray, G. F., Bogner, H. R., & Gallo, J. J. (2006). A mixed-methods approach to understanding loneliness and depression in older adults. *The journals of gerontology.Series B, Psychological sciences and social sciences, 61*(6), S329-339.

Bohlmeijer, E., Smit, F., & Cuijpers, P. (2003). Effects of reminiscence and life review on late-life depression: a meta-analysis. *International Journal of Geriatric Psychiatry, 18*(12), 1088-1094. doi: 10.1002/gps.1018

Brownie, S., & Horstmanshof, L. (2011). The management of loneliness in aged care residents: an important therapeutic target for gerontological nursing. *Geriatric Nursing, 32*(5), 318-325. doi: 10.1016/j.gerinurse.2011.05.003

Bryant, C., Jackson, H., & Ames, D. (2008). The prevalence of anxiety in older adults: methodological issues and a review of the literature. *Journal of Affective Disorders, 109*(3), 233-250. doi: 10.1016/j.jad.2007.11.008

Bulechek, G. M., Butcher, H. K., & Dochterman, J. M. (2008). *Nursing Intervention Classification (NIC)* (5 ed.). St Louis: Mosby.

Chao, S., Liu, H., Wu, C., Jin, S., Chu, T., Huang, T., & Clark, M. J. (2006). The effects of group reminiscence therapy on depression, self esteem, and life satisfaction of early nursing home residents. *Journal of Nursing Research (Taiwan Nurses Association), 14*(1), 36-44.

Chen, T. J., Li, H. J., & Li, J. (2012). The effects of reminiscence therapy on depressive symptoms of Chinese elderly: study protocol of a randomized controlled trial. *BMC Psychiatry, 12*(189).

Chiang, K. J., Chu, H., Chang, H. J., Chung, M. H., Chen, C. H., Chiou, H. Y., & Chou, K. R. (2010). The effects of reminiscence therapy on psychological well-being, depression, and loneliness among the institutionalized aged. *International Journal of Geriatric Psychiatry, 25*(4), 380-388. doi: 10.1002/gps.2350

Chong, A. (2000). Reminiscence Group for Chinese Older People-A Cultural Consideration. *Journal of Gerontological Social Work, 34*(2), 7-22. doi: 10.1300/J083v34n02_03

Chueh, K. H., & Chang, T. Y. (2014). Effectiveness of group reminiscence therapy for depressive symptoms in male veterans: 6-month follow-up. *International Journal of Geriatric Psychiatry, 29*, 377-383.

Coupland, C., Dhiman, P., Morriss, R., Arthur, A., Barton, G., & Hippisley-Cox, J. (2011). Antidepressant use and risk of adverse outcomes in older people: population based cohort study. *British Medical Journal*, 343. doi: 10.1136/bmj.d4551

Department of Statistics, M. (2010). Population distribution and basic demographic characteristics 2010. Malaysia.

Emery, E. E. (2002). *Living history-spiritually...or not? A comparison of conventional and spiritually integrated reminiscence groups.* (Doctoral dissertation), Bowling Green State University, US.

Freudenstein, U., Jagger, C., Arthur, A., & Donner-Banzhoff, N. (2001). Treatments for late life depression in primary care—a systematic review. *Family Practice, 18*(3), 321-327. doi: 10.1093/fampra/18.3.321

Gaggioli, A., Morganti, L., Bonfiglio, S., Scaratti, C., Cipresso, P., Serino, S., & Riva, G. (2013). Intergenerational Group Reminiscence: A Potentially Effective Intervention to Enhance Elderly Psychosocial Wellbeing and to Improve Children's Perception of Aging. *Educational Gerontology, 40*(7), 486-498. doi: 10.1080/03601277.2013.844042

Ghanbarpanah, I., Khoshknab, M. F., & Mohammadi Shahbalaghi, F. (2014). Effects of 8 weeks (8 Sessions) group reminiscence on mild cognitive impaired elders' depression. *International Journal of Biosciences, 4*(5), 11-22. doi: 10.12692/ijb/4.5.11-22

Han, J., & Richardson, V. E. (2010). The Relationship Between Depression and Loneliness Among Homebound Older Persons: Does Spirituality Moderate This Relationship? *Journal of Religion & Spirituality in Social Work: Social Thought, 29*(3), 218-236. doi: 10.1080/15426432.2010.495610

Hanaoka, H., Muraki, T., Yamane, S., Shimizu, H., & Okamura, H. (2011). Testing the Feasibility of Using Odors in Reminiscence Therapy in Japan. *Physical & Occupational Therapy in Geriatrics, 29*(4), 287-299. doi: doi:10.3109/02703181.2011.628064

Haslam, C., Haslam, S. A., Jetten, J., Bevins, A., Ravenscroft, S., & Tonks, J. (2010). The social treatment: the benefits of group interventions in residential care settings. *Psychology and Aging, 25*(1), 157-167. doi: 10.1037/a0018256

Henriques, M. A., Costa, M. A., & Cabrita, J. (2012). Adherence and medication management by the elderly. *Journal of Clinical Nursing, 21*(21-22), 3096-3105. doi: 10.1111/j.1365-2702.2012.04144.x

Housden, S. (2009). The use of reminiscence in the prevention and treatment of depression in older people living in care homes: A literature review. *Groupwork: An Interdisciplinary Journal for Working with Groups, 19*(2), 28-45. doi: 10.1921/095182410X490296

Hsieh, H. F., & Wang, J. J. (2003). Effect of reminiscence therapy on depression in older adults: a systematic review. *International Journal of Nursing Studies, 40*(4), 335-345.

Hsu, Y.-C., & Wang, J.-J. (2009). Physical, Affective, and Behavioral Effects of Group Reminiscence on Depressed Institutionalized Elders in Taiwan. *Nursing research, 58*(4), 294-299. doi: 10.1097/NNR.0b013e3181a308ee

Karimi, H., Dolatshahee, B., Momeni, K., Khodabakhshi, A., Rezaei, M., & Kamrani, A. A. (2010). Effectiveness of integrative and instrumental reminiscence therapies on depression symptoms reduction in institutionalized older adults: an empirical study. *Aging & Mental Health, 14*(7), 881-887. doi: 10.1080/13607861003801037

Liu, S. J., Lin, C. J., Chen, Y. M., & Huang, X. Y. (2007). The effects of reminiscence group therapy on self-esteem, depression, loneliness and life satisfaction of elderly people living alone. *Mid-Taiwan Journal of Medicine, 12*(3), 133-142.

MacKinlay, E., & Trevitt, C. (2006). *Facilitating spiritual reminiscence for older people with dementia a learning package* (2006 ed.). New South Wales: National Library of Australia Catalogue in Publication Data.

Mackinlay, E., & Trevitt, C. (2010). Living in aged care: using spiritual reminiscence to enhance meaning in life for those with dementia. *International Journal of Mental Health Nursing, 19*(6), 394-401. doi: 10.1111/j.1447-0349.2010.00684.x

Mary, B. H., Connie, J. M., Ebony, H., & Suzanne, S. (2008). Depression and the Elder Person: The Enigma of Misconceptions, Stigma and Treatment. *Journal of Mental Health Counseling*, 283-296.

Meléndez-Moral, J. C., Charco-Ruiz, L., Mayordomo-Rodríguez, T., & Sales-Galán, A. (2013). Effects of a reminiscence program among institutionalized elderly adults. *Psicothema, 25*(3), 319-323.

Meléndez Moral, J. C., Fortuna Terrero, F. B., Sales Galán, A., & Mayordomo Rodríguez, T. (2014). Effect of integrative reminiscence therapy on depression, well-being, integrity, self-esteem, and life satisfaction in older adults. *The Journal of Positive Psychology*, 1-8. doi: 10.1080/17439760.2014.936968

Nancy, H., Vicki, A., Douglas, A., & Amy, E. (2004). Biobehavioral correlates of relocation in the frail elderly: Salivary cortisol, affect, and cognitive function. *Journal of the American Geriatrics Society, 52*(11), 1856.

Sharif, F., Mansouri, A., Jahanbin, I., & Zare, N. (2010). Effect of group reminiscence therapy on depression in older adults attending a day centre in Shiraz, southern Islamic Republic of Iran. *Eastern Mediterranean Health Journal, 16*(7), 765-770.

Shellman, J. M., Mokel, M., & Hewitt, N. (2009). The effects of integrative reminiscence on depressive symptoms in older African Americans. *Western Journal of Nursing Research, 31*(6), 772-786.

Stinson, C. K., & Kirk, E. (2006). Structured reminiscence: an intervention to decrease depression and increase self-transcendence in older women. *Journal of Clinical Nursing, 15*(2), 208-218. doi: 10.1111/j.1365-2702.2006.01292.x

Wang, J. J. (2005). The effects of reminiscence on depressive symptoms and mood status of older institutionalized adults in Taiwan. *International Journal of Geriatric Psychiatry, 20*(1), 57-62. doi: 10.1002/gps.1248

Webster, J. D., Bohlmeijer, E. T., & Westerhof, G. J. (2010). Mapping the Future of Reminiscence: A Conceptual Guide for Research and Practice. *Research on Aging, 32*(4), 527-564. doi: 10.1177/0164027510364122

Willemse, B. M., Depla, M. F., & Bohlmeijer, E. T. (2009). A creative reminiscence program for older adults with severe mental disorders: results of a pilot evaluation. *Aging & Mental Health, 13*(5), 736-743. doi: 10.1080/13607860902860946

Wilson, K., Mottram, P. G., Sivananthan, A., & Nightingale, A. (2001). Antidepressants versus placebo for the depressed elderly. *The Cochrane database of systematic reviews*. doi: 10.1002/14651858.CD000561

Wilson, L. A. (2006). *A comparison of the effects of reminiscence therapy and transmissive reminiscence therapy on levels of depression in nursing home residents.* (3206563 Ph.D.), Capella University, Ann Arbor. ProQuest Dissertations & Theses Full Text database.

Wong, P. T. P., & Watt, L. M. (1991). What Types of Reminiscence Are Associated With Successful Aging? *Psychology and Aging, 6*(2), 272-279.

Zhou, W., He, G., Gao, J., Yuan, Q., Feng, H., & Zhang, C. K. (2012). The effects of group reminiscence therapy on depression, self-esteem, and affect balance of Chinese community-dwelling elderly. *Archives of Gerontology and Geriatrics, 54*(3), e440-447. doi: 10.1016/j.archger.2011.12.003

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Are Men really Challenging in Conversation? Exploring Gender Stereotype in Everyday Talk

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Abstract

Past studies of gender talk (for instance, Holmes, 2006) have mostly found that women tend to be collaborative while men tend to be challenging in everyday communication. This picture of gender stereotypes suggests that people hold strong views about gender behavior and which can have negative influences in the interactions if these stereotypes are not representative of the actual linguistic behavior of men and women. This study, therefore, aims to investigate the reliability of those stereotypes by investigating the actual use of collaborative strategies by men in particular.

The data was collected in Australian and all participants are young male native speakers of English. This study adopts both qualitative and quantitative analysis. It particularly focuses on examining three collaborative features in conversation: one utterance construction (Learner, 2004), one utterance expansion (Lerner, 1991) and repetition (Tannen, 2007).

For the quantitative analysis, male participants of this study showed the total of 52 cases of the three collaborative features in 12 conversations. This result suggests an indication of a possible trend, providing evidence for the possibility of the three collaborative features in conversation by men. For the qualitative analysis, Discourse Analysis is used to discuss how men deliver collaborative features in conversation. The results of the qualitative approach show that men in this study delivered several types of the three collaborative features in their talk.

Keywords: gender talk, gender stereotype, Discourse Analysis

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Introduction

Past studies of gender talk (for instance, Holmes, 2006) have mostly found that women tend to be collaborative while men tend to be challenging in everyday communication such as below.

Masculine	Feminine
direct	indirect
aggressive	conciliatory
competitive	facilitative
autonomous	collaborative
dominates talking time	talks less than men
interrupts aggressively	has difficulty getting a turn
task-oriented	person-oriented
referentially oriented	affectively oriented

This summary suggests that people still hold the beliefs that men adopt aggressive, dominating roles in conversations while women show collaborative and facilitative behavior. This picture of gender stereotypes suggests that people hold strong views about gender behavior which can have negative influences in the interactions if these stereotypes are not representative of the actual linguistic behavior of men and women. This study, therefore, aims to investigate the reliability of those stereotypes by investigating the actual use of collaborative strategies by men in everyday talk. In particular, this study focuses on looking at the there collaborative features in everyday talk such as one utterance construction (OUC), one utterance expansion (OUE) and repetition. There are two research questions in this study. Firstly, it examines whether men show the three collaborative features in their everyday talk. Secondly, it examines how men deliver those collaborative features in their talk. The data for this study was collected in Australia and it is analyzed in both quantitative and qualitative approaches. For the qualitative approach, Discourse Analysis is used in order to see how male participants deliver the three collaborative features in their talk. This study offers a contribution of the data and analysis to the field of gender talk. Most of the past studies investigating collaborative features on examining gender talk were undertaken in United States or the United Kingdom. Very little work has been undertaken in the Australian context.

Literature review

Gender stereotype

A number of sociolinguists have investigated gender stereotypes in talk. For example, men swear and use slang more than women do. Men tell jokes and women do not often tell jokes. Women can smooth over difficult social situations while men find this more difficult. Men tend to talk about competition, sports, and doing things. They also tease more and are more aggressive than women. Women tend to talk about themselves, feelings, affiliation with others, home and family (Lakoff,1975, Poynton,1989, Tannen,1993, and Wardhaugh,1992). Women were commonly described as adorable, charming, sweet, lovely and divine (Lakoff, 1975), heated,

sentimental, talkative, gentle, fussy, dreamy and emotional (Archer and Lloyd, 1985), less aggressive, less assertive, less dominant, more emotional and more timid (Drass, 1986). Women were often described as cheerful, dependent, and attractive (Hegstrom and McCarl- Nielsen, 2002). In contrast, men were described as self-confident, forceful, enterprising, assertive, confident, rational and tough (Archer and Lloyd, 1985). Boys tend to talk competitive topics while girls talk romantic topics (Hruska, 2004). Men were described as strong, sturdy, big, and tall. Holmes (2006) points out that gender stereotype are one of factors that influence conversational styles between men and women. These past studies of gender stereotype above suggest that men do not tend to collaborate, or use collaborative mechanisms, in their conversations in the way women do.

Collaborative talk

Past gender stereotype studies showed women tended to be collaborative in talk as the previous section this study showed. This part explains a definition of collaborative talk. Chang and Wells (1987, p. 6) provide a definition for collaborative talk. Collaborative talk is 'talk that enables one or more of the participants to achieve a goal as effectively as possible'. The goals may vary since each conversation has a different purpose but has at least some level of specificity, in that one of participants has a goal that he or she wishes to achieve and the other participant engages in talk that helps the first to achieve that goal. Nevile (2007, p. 251) argues that, in collaborating for work, participants interact to create and coordinate their contributions, and they attend to one another's conduct to complete tasks and goals for the setting in ways that they themselves treat as acceptance. Thus, collaborative talk means that participants try to help one another in achieving their conversational goals. In order to achieve their conversational goals, it is important for participants to co-operate with each other and try to accept other participants' directions.

Three collaborative features

Although there are several collaborative features in conversations, One Utterance Construction (OUC), One Utterance Expansion (OUE) and Repetition were frequently seen among participants in this study. Therefore, this study focuses on looking at the three collaborative features for both quantitative and qualitative analysis. These three conversational features are considered as collaborative talk (Learner, 1992 and Tannen 2007). Each collaborative feature is explained below.

OUC

OUC is one of the collaborative features that the previous speaker's in-progress utterance is developed by the next speaker. As a result, one syntactically complete discourse unit is formed by both speakers. Learner (2004) explains OUC by giving an example below.

    Ken: insteada my grandmother offering him a drink, of beer she'll
              say [wouldju-
    Louise: [wanna glass milk? [hehhh
    Ken: [no wouldju like a little bitta he'ing?

                                        (Learner, 2004, p. 208)

According to Learner (2004), Ken provides an in-progress utterance which gives an opportunity for the next speaker, Louise to complete Ken's in-progress utterance. Louise then delivers "wanna glass milk?" which syntactically completes Ken's in-progress utterance. Thus one syntactically complete discourse unit was collaboratively made by both Ken and Louise.

OUE

OUE is a feature in which the original speaker provides a syntactically complete sentence and the next speaker expands the original speaker's discourse unit with some kind of expansion device such as '*and*'. Thus the previous speaker's utterance can stand alone and need not be developed, but the next speaker develops it anyway (Learner, 1991). For instance,

> Louise: first of all they hit rain then they hit hail
> Roger: n then they hit snow.

> (Learner, 1991, p. 448)

Learner (1991) explains that the first speaker, Louise delivers a syntactically complete discourse unit which can stand alone. However, the next speaker, Roger expands the first speaker's utterance using an increment initiator 'and'. Thus one syntactically complete discourse unit was collaboratively expanded by more than two speakers.

Repetition

Although there are two types of repetition such as one which is produced by the other speaker and one which is produced by the same speaker (Tannen, 2005), this study focuses on looking at the first type repetition produced by the other speaker. It can be either a repetition of part of the previous speaker's production or it can be a repetition of the full utterance. For instance,

> A: Where are you staying.
> B: Pacific Pallisades.
> A: Oh. Pacific Pallisades.

> (Sacks, 1992, v2, p 141)

Sacks (1992) explains that B's utterance '*Pacific Pallisades*' is repeated by A. A's repetition '*Pacific Pallisades*' shows A' understanding of B's utterance.

In short, this study uses these three collaborative features which are explained above as model cases for both quantitative and qualitative analysis. As for quantitative analysis in this study, coding numbers of these three collaborative features in conversations are based on examples which are explained above. As for qualitative analysis, two examples of OUC, OUE, and repetitions are selected and are examined.

Methodology

Participants in this study are young Australian men aged in between mid twenties and thirties. All of them are native speakers of Australian English. The total of nine conversations were reordered: five men only conversations and four gender mixed

conversations. The length of each conversation varies since they were not given any topic to talk. Because this study aims to explore everyday talk, all participants in this study were invited to talk freely while their conversations were recorded (Speer, 2002). In order to avoid the researcher's influence, the author of this study relied on participants to record their conversations (Cameron, 2001). After the participants finished recording their conversations, their recordings were given to the author of this study and he transcribed the conversations. All transcriptions of the data used for the analysis were then double checked by two native speakers of English. Participants were engaged in everyday situations during the recordings including the following:

- Participants having dinner, lunch, snacks with tea or coffee in participant's place.

- Participants having a break or having lunch (including dinner when they were working late) at work and talking.

- Participants having a party in participants' place.

Results

The total of 71 cases of the three collaborative features were observed in this study. 9 instances of OUC were observed, 23 cases of OUE were observed and 39 cases of repetition were seen.
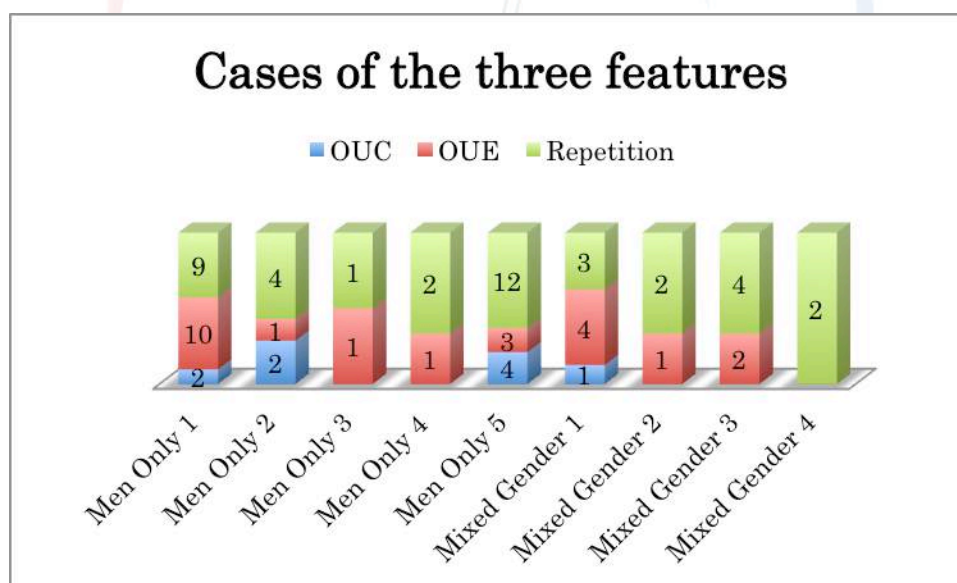
The quantitative results suggest that men tend to use collaborative conversational features. However, it is hard to conclude that men use collaborative conversational features since Schegloff (1993) points out coding numbers of cases does not support any generalizing of trends of the feature examined. For instance, people might laugh all the time but others might not laugh at all through the whole conversation. This is because each person is unique when they talk. Thus numerical data as evidence for the studies of conversation is not reliable for the analysis. However, Perakyla (2004, p. 297) supports the notion of the possibility of using a quantitative approach in the study of conversation. She explains that various practices can be considered

generalizable even if the practices are not actualized in similar ways across different settings. Thus the quantitative results of this study can be used as a possible trend, providing the three collaborative features among male participants in this study.

Discussions

This part shows qualitative analysis of the three collaborative features in conversations: OUC, OUE and repetition. Two cases of each collaborative feature are examined. Participants in this section are listed below.

A: a man in early thirties, born in New Zealand but holds Australian citizenship
B: a man in early thirties, born in Scotland but holds Australian citizenship
K: a man in late twenties, born in Australia, L's young brother
J: a man in early thirties, born in Australia
L: a man in early thirties, born in Australia
G: a man in late twenties, born in Australia, J's friend

Examples of OUC

Two examples of OUC are qualitatively examined in this section. Example 1 contains the case which is the basic model of OUC which was explained by Lerner (2004) earlier in this study. Example 2 shows the complicated version of OUC but it shows a highly collaborative case by male speakers.

Example 1

The example below is a part of the conversation which is a multiple party conversation. All participants are men. B is telling his story to other participants and OUC is seen in lines 23 and 24.

15.	B:	and he would make us all cocktails like squash [rocks 'n' stuff] like that?
16.	K:	[uh:::::]
17.	A:	[oh yu::m]
18.	K:	[ah nice]
19.	B:	so squash rocks was ah (.) midori there was a <u>dot</u> just <brown (.) green (.)
20.		red>
21.		(1.0)
22.	A:	ni:ce=
23. →	B:	= and he would used to just make up (.) just like [random shot]
24. →	J:	[random shit]
25.	B:	random stuff like that.
26.	K:	yep

B's utterance in line 23 '*and he would used to just make up (.) just like [random shot]*' can, syntactically, be an independent and complete discourse unit. B's '*random shot*' in line 23 is, however, overlapped by J's '*random shit*' in line 25 which is an affiliating utterance that completes the previous speaker's utterance. J's '*random shit*' in line 24 fits perfectly with B's '*random shot*', both semantically and syntactically, which suggests that J's '*random shit*' is an example of successful

collaborative completion. J's '*random shit*' is then accepted by B in his next turn in line 25, in which he rephrases his own '*random shot*' into '*random stuff*''. Thus in this example B and J collaboratively deliver one discourse unit: '*he would used to just make up (.) just like random shot [random shit]*'.

Example 2

The example below is a part of the conversation which is a multiple party conversation. All participants are men. They are talking about L's story that he was in charge of doing DJ for a wedding. L is explaining a CD for his DJ session at the wedding.

240.   L: and it's like <u>normally</u> (.) if (.) I tell like a bride and groom or something to
241.   bring along a CD. (0.7) if you're worried? Whether they'll actually bring
242.   it along?=
243.   J: =yeah
244.   B: and whether or not [they just] ((unclear)) you to find it ↑ any ↓ way.
245.   L: [nono   ]
246. → L: yeah but if it's ah marine guys say just like o:[:h]
247. → K: [o:]h it's gonna [wo::rk]
248.   L: [>it's<] it's
249.   gonna work they'll have four coipes of it (.) just in case >the first one<
250.   doesn't [work until] I get
251.   B: [ye:ahhhh]

In line 246, L delivers '*yeah but if it's ah marine guys say just like o:[:h]*'.   It contains an extended '*o::h*' at the end which provides an opportunity for the next speaker to complete his L's utterance. At the same time, L goes on to expand his utterance after his extended '*o:[:h]*'.   At this point, any participant in this conversation can take this opportunity to speak but K in line 247 delivers his '*[o:]h it's gonna [wo::rk.]*'. Therefore, one syntactically discourse unit "yeah but if it's ah marine guys say just like oh it's gonna work" has just collaboratively formed by both L and K.

This case of OUC includes a feature of overlap which can be treated as either the case of interruption (Sacks, 1992, v2) or enthusiastic participation into talk (Tannen, 1993). The overlap feature in this case could be treated as speaker's enthusiastic participation. Sacks (1992, v2) explains that when the original speaker sees that he/she is being interrupted by the next speaker, the original speaker often displays his/her anger in utterances such as '*you always interrupt me*'. In the example in this study above, the original speaker L did not deliver utterances such as displaying his anger towards the next speaker K. Instead, L in line 248 delivers a repetition of K's utterance '*[>it's<] it's gonna*' which accepts K's contribution and suggests that K's overlapping '*[o:]h*' in line 247 is being treated as Tannen's type of 'interruption', in that the next speaker is showing his enthusiastic desire to participate and to talk. In the end, both speakers in this example collaboratively formed one discourse unit.

Examples of One Utterance Expansion (OUE)

There are two examples of OUE which are qualitatively examined. Example 3 includes the case that both speakers use not only the case of OUE but also both speakers use playful talk strategies within OUE. Example 4 shows both speakers expand the original speaker's utterance not only once but three times.

Example 3

The example below is a part of the conversation between two men: A and J. They are talking about J's DVD collection looking at his DVDs. A case of OUE is seen in lines 5 and 6.

1.　　　A: star wars (2.0) ↓ always.
2.　　　　(4.0)
3.　　　 J: no they just sort of fall out.
4.　　　　(1.0)
5.　 → J: it's a shitty bloody case.
6.　 → A: but it does the trick.
7.　　　 J: cost me ten ↑ <u>bucks</u> so of c<u>our</u>se it does the trick.
8.　　　 A: <u>bargain</u>.

In line 5, J says '*it's a shitty bloody case.*', probably describing the DVD case from which DVDs '*just sort of fall out.*' (line 3). Then in line 6, A delivers '*but it does the trick*' which expands J's '*it's a shitty bloody case.*' in line 5. Thus one discourse unit '*it's a shitty bloody case but it does the trick*' is collaboratively formed by both J and A. This case follows Lerner's basic model of one sentence expansion and contains an increment initiator '*but*'.

In addition, A's utterance in line 6 '*but it does the trick.*' also prompts the original speaker J to engage in some humorous talk. J in line 7 responds to A's utterance '*but it does the trick*' with a story about buying the DVD for ten dollars. J implies, with his emphasis on '*bucks*', that ten dollars is a substantial amount, so must buy a functioning DVD case. J in line 7 delivers '*... of c<u>our</u>se it does the trick.*', playing on the words delivered by Aa in line 6 '*... it does the trick.*'. However, both participants know that ten dollars is in fact cheap, and J's playful talk in line 7 is understood by Aa in line 8 when he says '*<u>bargain</u>*'. In the end, both male speakers J and A collaboratively formed the case of OUE.

Example 4

The example below is a part of the conversation between two men: J and L. They are talking about an old story of one of their holidays in the past.   A case of OUE is seen in lines 31 to 33.

28.　　　 J: hehehe and he goes (0.5) ↑ fuck's my door shut. and we're like eh?
29.　　　　anyway cause he went to go an in there and he didn't come back around
30.　　　　us, .hhh and he walks in, and the heat wave that came through-
31.　 → L: cause he saw the heat wave coming out of his fucking room

32. → J: and it was ju- we're both like ↑ ye:::ah,
33. → L: because it was beautiful because he was all cold in ours, and then he
34.   walked into the next room was a sauna.

J's utterance in line 30 '*walks in, and the heat wave that came through-*' is cut off by the next speaker L. L in line 32 then delivers '*cause he saw the heat wave coming out of his fucking room*'. J in line 30 talks about the 'heat wave'.
The next speaker L expands L's talk to provide details of where the heat wave was coming from, and how it was seen by their friend. Therefore, J's utterance in line 30 '*walks in, and the heat wave that came through-*' is interrupted and, at the same time, expanded by the next speaker L in line 31. L's expansion component in line 31 '*cause he saw the heat wave was coming out of his fucking room*' contains '*cause*' as an increment initiator.   L's expansion in line 31 does not end J's story. It is further expanded by the original speaker J in line 32. J in line 32 delivers '*and it was ju- we're both like ↑ye:::ah,*' which contains an increment initiator '*and*'. J's utterance describes both J and L's reactions to their friend's having been a victim of their practical joke. Thus, so far, a discourse unit is collaboratively formed by both J and L: '*he walks in and the heat wave that came through cause he saw the heat wave was coming out of his fucking room and it was ju- we're both like ↑ye:::ah, *'.

J's expansion in line 32 '*and it was ju- we're both like ↑ye:::ah,*' is then expanded by L in lines 33 and 34 by delivering '*because it was beautiful because he was all cold in ours, and then he walked into the next room ws a sauna.*'. L's expansion contains two uses of the increment initiator '*because*'. The first '*because*' by L is used to expand the previous speaker, J's utterance in line 32 '*and it was ju- we're both like ↑ye:::ah,*'. The second '*because*' by L expands his first component '*because it was beautiful*'. In this example, both speakers collaboratively expand their utterances.   This example showed that the original speaker's utterance was not only expanded once but it was expanded three times.

Repetitions

There are two examples of repetition. Example 5 contains the case of repetition which is used as a prompt of developing a story between J and G. Example 6 has the case of repetition which is used as an expansion of their conversation.

Example 5

J is telling his story of his trip in the past and G is listening J's story. In this example, a case of repetition is seen in lines 31 and 32.

30.   J: every guinness:: that you buy (0.3) you get in a gui[ness::]
31. → G: [in a   ] proper glass.
32. → J: [you get] it in a proper glass. so I actually brought home with me (.) seven
33.   G: [yeah.]
34.   J: glasses of guinness?
35.   G: see I-
36.   J: and I I ay a:h ↓ two of them got cracked in the car on the way home.
37.   G: yep

G in line 31 tries to complete J's in-progress utterance in line 31 '*you get in a guin[ness::]*'. However, G's completing utterance '*[in a] proper glass.=*' is launched before J's utterance is finished. Then J in line 32 repeats G's utterance in line 31 as '*[you get] it in a proper glass.*'. J's repetition is used to acknowledge and accept G's attempt to complete J's prior talk '*[in a] proper glass.=*' (Lerner, 1991), as well as to provide the basis for further expansion of his story.

In addition, J in line 30 says, '*every guinness:: that you buy, (0.3) you get in a guin[ness::]*' which is overlapped by G in line 31 '*[in a]*'. G's '*[in a] proper glass.=*' in line 31 overlaps J's '*... guin[ness::]*' in line 30. This overlap feature does not seem to be problematic (Liddicoat, 2007) and is used similarly as seen in the case in Example 2. It shows the next speaker G's enthusiastic participation into J's story (Tannen, 1993). Also the original speaker J does not display any anger by saying something like '*you always interrupt me*' (Sacks,1992, v2). This suggests that this overlap does not cause any problem between the original speaker and the next speaker. In this example, the case of repetition was used as a prompt of developing a story. In addition, the case contained an overlap feature which showed that the speaker's enthusiastic participation of the story. Thus both speakers in this example collaboratively tried to develop the story with a case of repetition.

Example 6

A case of repetition is seen in lines 79. Unlike the previous example, the case of repetition did not occur straight after the previous speaker's utterance. It is, however, used as a developing the conversation between two speakers.

75.   J: is that mediterranean or (0.8) past in
76.   E: (I went) the pota- the potato and the garden salad actually ¿
77.   J: oh right okay.
78.   E: ye:::s.
79. → J: potato and garden.
80.   E: ye:::s.

J in line 75 asks the question '*is that Mediterranean or (0.8) pasta in*' and then E in line 76 answers with '*(I went) the pota- the potato and the garden salad actually¿*'. J in line 77 delivers '*oh right okay.*' which suggests that J accepts E's answer. After E's '*ye:::s.*' in line 78, J delivers a repetition '*potato and garden.*', which was a part of E's utterance in line 76. E in line 80 then delivers another '*ye:::s.*' which acknowledges and confirms the content of J's repetition.

Instead, J's repetition '*potato and garden.*' appears to be used as a prompt for an expansion of the conversation (Tannen, 2007). Tannen (2007, P. 73) explains that repetition can be used as a prompt to expand a part of the conversation, as shown below.

    1: Deborah   Do you read?
    2: Peter   Do I read?
    3:              Do you read things just for fun?
    4: Peter: Yeah.

| 5: | Right now I'm reading |
| 6: | Norma Jean the Terminate Queen |

Tannen explains that in line 2, Peter repeats Deborah's '*Do you read?*' as '*Do I read?*' which prompts Deborah's second, expanded question in line 3. Then Peter himself, from line 4, starts expanding this part of the conversation by answering the question. J's repetition '*potato and garden.*' in line 79 below is used similarly to Tannen's repetition example above. In short, both speakers in this example collaboratively used a case of repetition to make this part of conversation collaboratively.

Conclusion

This study examined one of gender stereotypes that women tend to be collaborative while men tend to be challenging in everyday communication. Therefore, it aimed to investigate the reliability of those stereotypes by investigating the actual use of collaborative strategies by men in everyday talk. In particular, this study focused on looking at the there collaborative features in everyday talk such as OUC, OUE and repetition.

There were two research questions in this study: 1) whether men show the three collaborative features in their everyday talk. 2) how men deliver those collaborative features in their talk. In order to answer the first question, the quantitative results of this study shows that men in this study used the three collaborative features in their conversation. Thus the results can be used as a possible trend, providing the three collaborative features among male participants in this study.

As for the second question, qualitative analysis of the three collaborative features explain the answers. First of all, both example 1 and 2 showed that men delivered OUC which are followed the basic model of OUC explained by Leaner (2004). Both examples contain an overlap feature which also supports the notion of collaborative feature as well as OUC. Secondly, both example 3 and 4 showed two cases of OUE. Example 3 included a playful talk by both speakers on the top of OUE which supports collaborative feature in conversation. Example 4 included the original speaker's utterance was developed not only once but it was expanded twice which suggests both speakers were highly collaborative in their part of conversation. Thirdly, the cases of repetition were used as a prompt of developing a story and an expansion of conversation.

Both quantitative and qualitative analysis of this study showed men's collaborative features in conversations. Based on the results of this study, it is possible to say that men also deliver collaborative features in their conversation. Thus it is possible to say that collaborative feature is one of men's stereotypes.

References

Archer, J., & Lloyd, B. (Eds.). (1985). *Sex and gender*. New York: Cambridge University Press.

Cameron, D. (2001). *Working with spoken discourse*. London: SAGE.

Chang, G. L. & Wells, G. (1987). *The Literate of potential of collaborative talk*.

Drass, K. A. (1986). The effect of gender identity on conversation. *Social Psychology Quarterly, 49*(4), 294-301.

Hegstrom, J. L. & McCarl-Nielsen, J. (2002). Gender and metaphor: descriptions of familiar person. *Discourse Process, 33(3)*, 219-234.

Hruska, B. L. (2004). Constructing gender in an English dominant kindergarten: implication for second language socialization. *TESOL Quarterly*. 38(3), 458-485.

Holmes, J. (2006). *Gender talk at work: constructing gender identity through workplace interaction.* Malden, MA: Blackwell.

Nevile, M. (2007). Action in time: Ensuring timeliness for collaborative work in the airline cockpit. *Language in Society, 26*, 233-257.

Lakoff, R. (1975). *Language and women's place*. New York: Harper & Row Publishers.

Lerner, G. H. (1991). On the syntax of sentences-in-progress. *Language in Society*, 20, 441- 458.

Lerner, G. H. (1992). Assisted storytelling: Deploying shared knowledge as a practical matter. *Qualitative Sociology, 15*(3), 247-271.

Lerner, G. H. (2004). Collaborative turn sequences. In G. H. Lerner (Ed.), *Conversation analysis studies from the first generation* (pp. 225-256). Philadelphia: John Benjamins Publishing Company.

Liddicoate, A. J. (2007). *An introduction to conversation analysis*. London: Continuum.

Perakyla, A. (2004). Reliability and validity in research based on naturally occurring. In D. Silverman (Ed.), *Quantitative research - theory, method and practice -* (2nd ed., pp. 283-304). London: SAGE.

Sacks, H. (1992). *Lectures on conversation* (Vols. 1-2). Oxford: Blackwell.

Schegloff, E. A. (1993). Reflections on quantitafication in the study of conversation. *Research on Language and Social Interaction, 26*(1), 99-128.

Speer, S. A. (2002). What can conversation analysis contribute to feminist methodology? putting reflexivity into practice. *Discourse and Society, 13*(6), 783-803.

Tannen, D. (1993). The relativity of linguistics strategies: Rethinking power and solidarity in gender and dominance. In D. Tannen (Ed.), *Gender and conversational interaction.* (pp. 165-188). New York: Oxford University Press.

Tannen, D. (2007). *Talking voices - repetition, dialouge, and imagery in conversational discourse* (2nd ed.). New York: Cambridge University Press.

Poynton, C. (1989). *Language and gender: Making the differences.* Oxford: Oxford University Press.

Wardhaugh, R. (1992). *An introduction to sociolinguistics.* (2nd ed.). Oxford: Blackwell.

I AM FOR ADHD: An Exploration in the Lives of and its Effects in Children with ADHD

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Abstract

With multiple economic problems burdening the Philippines, managing children with ADHD entails not only effort and time but greater financial challenges as well. Many children rarely sustain medications to alleviate their difficulties and are faced with inability to have continuous therapy sessions. Conducted in a public school in Manila that caters pupils who belong to considerably low socio-economic status, this study shed light on the various difficulties in the executive functions of children with ADHD. Having the case study approach as basis, this study came up with the P.A.C.E. for Children with ADHD (Psychoeducation and Cognitive Exercises for Children with ADHD). This program consists of a combination of psychoeducation and cognitive skills exercises (bimodal) for one hour each session in three (3) months. Employing the true experimental design, the Behavioral Rating Inventory of Executive Functions (BRIEF) completed by parents, measured changes in the executive functions, which are the usual difficulties especially in school of the children with ADHD. Overall, this study has shown that P.A.C.E. made considerable effects in the executive functions. It has shown significant differences in 5 out of the 8 scales of BRIEF, specifically in shift, working memory, inhibit, plan and monitor scales. With the regular but minimal supervision of psychologists, the activities in the P.A.C.E. can be done by parents in the comforts of their homes, thus, helping the families who are not able to avail professional services offered by private clinics. The study can also broaden horizons in research, education and practice.

Keywords: ADHD, Executive Functions, BRIEF, Psychoeducation, Cognitive Exercises

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Introduction

Inattentiveness, hyperactivity, impulsiveness are the core evidences that a child has what is known as Attention Deficit Hyperactivity Disorder (ADHD). Behaviors in children such as failure to give close attention to details, making careless mistakes in schoolwork, difficulty to sustain attention in play activities or other tasks, inaccurate work, looking elsewhere and not seeming to listen when spoken to directly, difficulty in learning and organizing tasks, getting often easily distracted by extraneous stimuli, being forgetful, fidgeting with hands or squirming in one's seat, excessive talking and feelings of restlessness (DSM-V [APA, 2014]) are some of the various symptoms of ADHD. Above all these, it is the deficits in executive functions or the high-level cognitive processes affecting goal-directed behaviors, which are at the core of ADHD (Holmes et. al., 2010 and Thorell et al, 2010). While cognitive measures of executive function are helpful as diagnostic tools, one can also conclude that in order to help children with ADHD, the areas that must be treated directly and dynamically are the executive functions.

Being a Third World country, managing children with ADHD in the Philippines entails a lot of challenges and financial sacrifices. Parents of these children suffer from the inability to provide medications and avail professional services offered by private clinics. They have to rely to whatever programs that could alleviate the difficulties they undergo in managing their burdensome situation and the special condition of their children. The same predicament also carries with it the lack of proper or appropriate knowledge regarding the nature and possible help in dealing with such difficulties.

The participants together with their parents reported some difficulties experienced that are directly linked to the executive functions. Children with ADHD are easily distracted by extraneous stimuli, have problems organizing activities, and lack inhibitory control (Gawrilow, Gollwitzer & Oetinnger, 2011). Prominent thEories on ADHD suggest that ADHD symptoms arise from deficits in executive functions because these deficits reliably differentiate children with ADHD from children without ADHD (Barkley, 1997 as cited by Gawrilow, Gollwitzer & Oetinnger, 2011). Weakness in the executive functions is considered to be the explanation why there is persistent difficulty in the academic development of children with ADHD (Biederman, et al, 2004 as mentioned in Huang – Pollock & Karalunas, 2010).

Recent studies show that two of the most effective ways to improve these functions in the children with ADHD are psychoeducation and cognitive exercises. Psychoeducation is widely accepted as it fits very well with the medical model of illness by being clinically focused common sense-based intervention (Colom, 2011 as cited by Morokuma et. al, 2013). Moreover, it is relatively simple and can be administered by therapists of various disciplines without extensive training (Morokuma et al, 2013). On the other hand, cognitive training and exercises like puzzle, memory games and similar computer-based games provide significant improvement in the academic performance, complex reasoning skills, attention, impulse control and even social functioning of children with ADHD (Rapport, et al., 2013).

With some hope for the children with ADHD and their parents, this study sheds light on their real conditions and paves the way for the creation of Psychoeducation and Cognitive Exercises (PACE) for Children with ADHD. The program seeks to contribute to majority of the scales in the participants' executive functions as measured by BRIEF (Behavior Rating Inventory of Executive Functions). This paper also broadens the horizon for further research and investigations.

Research Design

Participants

20 children between the ages of 5 to 13 were recruited from P. Burgos Elementary School, through the recommendation of the City of Manila Division of the Department of Education (N control = 10; N experimental = 10). The participants were enrolled under the Silahis ng Pag-ibig division which is mainly for children with special needs. Through the endorsement of the Principal, participants who possessed the inclusion criteria were identified. They are those who submitted a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) duly certified by psychologists and or psychiatrists, not taking any medications for the last 6 months and during the course of the study. The parents were provided with informed consent and the children gave verbal assent prior to their participation.

Instrument

BRIEF (Behavior Rating Inventory of Executive Function) Parent Form enables the professionals to assess executive function behaviours in the home and school environments. This is to be completed by parents and teachers. It is designed for a broad range of children, ages 5 to 18 years old, with various conditions such as learning disabilities and attentional disorders, traumatic brain injuries, lead exposure, pervasive developmental disorders, depression and other developmental, neurological, psychiatric and medical conditions. Both forms contain 86 items within eight theoretically and empirically derived clinical scales that measure different aspects of executive functioning. It was designed to be used for a wide range of childhood disorders in order to augment traditional clinic - based assessments and to provide an increased level of ecological validity for clinical assessments (Rabbit, 1997 as cited by Mahone et al., 2002). The form consists of 86 items and the parents rate their child's behaviour on a three-point Likert scale (never, sometimes, often). The questionnaire consists of eight scales namely Initiate, Working memory, Plan/organize, Organization of materials, Monitor, Inhibit, Shift and Emotional Control. The raw scores can be translated in T-score and percentile and can be interpreted as the higher the scores on each scale, the greater would be the perceived impairment. For all the clinical scales and indexes, T scores at or above 65 should be considered as having potential clinical significance. Mean internal consistency ratings reported for clinical populations using the BRIEF Parent Form range from .82 to .98. Three-week test–retest correlations for clinical populations on the Parent Form range from .72 to .84 (Mahone, et.al, 2001). For the purposes of this study, all the scales were utilised since interpretive significance on individual items is not recommended due to lower reliability of individual items relative to the scales.

Program

P.A.C.E. or Psychoeducation and Cognitive Skills Exercises for Children with A.D.H.D. is the name of the intervention. In the English language, "pace" as a verb means walking at a steady speed. The program was named as such since there were set of activities planned out for the whole duration however the activities were adjusted depending on the pacing or progress of the participants. In this way, the participants were given longer time in activities that they enjoy and or activities that need more time and practice.

The activities were facilitated individually majority of the time hence there were times they were facilitated by pair depending on the nature of the activities. Completed for 12 weeks, the program was facilitated twice a week with one hour per session. The activities utilized various cognitive skill exercises (e.g. solving puzzle, arranging objects, memory games) and psychoeducation (what ADHD is, why am I special, etc).

Procedure

A permission was sought from the City Division of Manila, in order to conduct the intervention program in P. Burgos Elementary School. After the identification of potential participants, informed consent were given to parents and or guardians. The parents were oriented on the details of the program, its possible effects and the commitment that may be required from them in participating in the study. Participants and parents who agreed were randomly assigned in the control and experimental groups. The members of the control group attended the special education classes handled by their respective teachers while the members of the experimental group were given the P.A.C.E. (Psychoeducation and Cognitive Skills Exercises). Prior to the start of the intervention program, all the parents were given the Behavior Rating Inventory of Executive Function. P.A.C.E was conducted for 12 weeks and post-test was given to the parents.

Results

Demographic data for the control and experimental groups were compared (Table 1). Majority of the participants were in the ages between 11 - 13 and are equally coming from Classes D and E in terms of the socio economic status. All of the participants were male.

Table 2 provides the means and SDs for measure of each scale. The groups were compared using t-tests and significant levels were also shown. Among all the eight scales of the BRIEF test, the scale on *shift, working memory, inhibit, plan and monitor* were found to be significant after the facilitation of the P.A.C.E. program.

Shift Scale

This scale assesses the ability to move freely from one situation, activity, or aspect of a problem to another as the circumstances demand. Monsell (1996) sees shift as one of the common groups of executive functions which includes the shifting back and forth between multiple tasks or mental sets. Children with ADHD also have

difficulties performing tasks that require shifting between mental sets and therefore consistently exhibit poorer performances on the Wisconsin Card Sorting Test (WCST; e.g., Grant & Berg, 1948 as cited by Thorell et al, 2010)

The participants who experienced the P.A.C.E program shows improvement in this area (*Baseline of 13.6* and *Posttreatment of 12.4*). While the group who just continued the usual academic program, does not show significant change (*Baseline of 15.3* and *Posttreatment of 15.2*).

Working Memory

The items from this scale measure the capacity to hold information in mind for the purpose of completing a task. They can be describe with weak working memory as having trouble in remembering things even for a few seconds, losing track of what they are supposed to retrieve when sent. Working memory deficits have been widely and repeatedly documented in children with ADHD (Klingberg et al., 2005 as cited by Gawrilow, Gollwitzer, & Oettingen, 2011). Results suggest a weakened general working memory in children with ADHD (Martinussen, Hayden, Hogg-Johnson, & Tannock, 2005; Martinussen & Tannock, 2006 as cited by Gawrilow, Gollwitzer, & Oettingen, 2011) as well as more specific working memory deficits (e.g., rehearsal of verbal and spatial information; Karatekin, 2004 as cited by Gawrilow, Gollwitzer, & Oettingen, 2011).

The participants who experienced the P.A.C.E program shows improvement in this area (*Baseline of 18.2* and *Posttreatment of 15.2*). While the group who just continued the usual academic program, does not show significant change (*Baseline of 17.9* and *Posttreatment of 16.8*).

Inhibit

This scale assesses the ability to stop one's own behaviour at the appropriate time. Inhibition involves the ability to inhibit dominant, automatic, or pre-potent responses. A typical inhibition task is the Stop Signal task (Logan & Cowan, 1984 as cited by Gawrilow, Gollwitzer, & Oettingen, 2011). In trials with a stop signal, participants are required to inhibit their response. Children with ADHD have difficulties to inhibit their response on stop trials and show a prolonged reaction time on Go trials as compared to children without ADHD and without any psychiatric diagnosis (Lijffijt et al., 2005 as cited by Gawrilow, Gollwitzer, & Oettingen, 2011).

The participants who experienced the P.A.C.E program shows improvement in this area (*Baseline of 18.5* and *Posttreatment of 16.7*). While the group who just continued the usual academic program, does not show significant change (*Baseline of 18.6* and *Posttreatment of 18.3*).

Plan/Organize

This scale measures the child ability to manage current and future-oriented task demands. The plan component of this scale refers to the ability to anticipate future events, set goals and develop appropriate steps ahead of time to carry out a task or activity. It often requires sequencing or stringing together a series of steps. The

organising component relates to the ability to bring order to information and to appreciate main ideas or key concepts when learning or communicating information. This involves the ability to organise oral and written expression, as well as to understand main points expressed in presentations or written material,

The participants who experienced the P.A.C.E program shows improvement in this area (*Baseline of 27.1* and *Posttreatment of 24.5).* While the group who just continued the usual academic program, does not show significant change (*Baseline of 22.7* and *Posttreatment of 22.4).*

Monitor

This scale assesses work checking habit. They can be described as rushing through work, making careless mistakes and failing to check work.

The participants who experienced the P.A.C.E program shows improvement in this area (*Baseline of 14.7* and *Posttreatment of 24.5).* While the group who just continued the usual academic program, does not show significant change (*Baseline of 22.7* and *Posttreatment of 12.9).*

Emotional Control

This scale addresses the manifestation of executive functions within the emotional realm and assesses a child's ability to modulate emotional responses. They may be observed as a child who cries easily or laughs hysterically with small provocation or severity that is not age appropriate.

The participants who experienced the P.A.C.E program shows a decrease in the level of deficit but not significant (*Baseline of 21.3* and *Posttreatment of 20.2).* While the group who just continued the usual academic program, did not improve at all in this domain (*Baseline of 21.4* and *Posttreatment of 22.1).*

Initiate

This scale contains items relating to beginning a task or activity as well as independently generating ideas, responses or problem solving strategies. The children are described as having difficulties with getting started on homework or chores and there is a need for extensive prompts or cues in order to begin a task or activity.

The participants who experienced the P.A.C.E program shows a decrease in the level of deficit but not significant (*Baseline of 13.8* and *Posttreatment of 13.5).* While the group who just continued the usual academic program, did not show any significant change (*Baseline of 17.1* and *Posttreatment of 17).*

Organization of Materials

This scales measures orderliness of work, play and storage space.. Children who have difficulties in this area often cannot function efficiently in school or at home because they do not have their belongings readily available for their use.

The participants who experienced the P.A.C.E program shows a decrease in the level of deficit but not significant (*Baseline of 6.8* and *Posttreatment of 6.6*). While the group who just continued the usual academic program, did not show significant change (*Baseline of 15.1* and *Posttreatment of 14.0*).

	CONTROL GROUP		EXPERIMENTAL GROUP	
Age	*f*	%	*f*	%
5-7	3	30%	2	20%
8-10	3	30%	2	20%
11-13	4	40%	6	60%
Total	10	100%	10	100%
Socio Economic	f	%	f	%
Class D/ Monthly Income of ~Php 16000	6	60%	4	40%
Class E/Monthly Income of ~Php 6000	4	40%	6	60%

TABLE 1. PARTICIPANTS CHARACTERISTICS (N=20)

	P.A.C.E.		CONTROL	
	Baseline	Posttreatment	Baseline	Posttreatment
Shift	13.6 (1.65)	12.4 (2.07)	15.3 (4.16)	15.2 (4.13)
Working Memory	18.2 (1.55)	15.2 (2.20)	17.9 (5.23)	16.8 (5.67)
Inhibit	18.5 (2.51)	16.7 (3.13)	18.6 (4.55)	18.3 (5.17)
Emotional Control	21.3 (1.83)	20.2 (2.35)	21.4 (1.71)	22.1 (2.56)
Initiate	13.8 (1.23)	13.5 (2.12)	17.1 (4.53)	17 (4.71)
Plan/Organize	27.1 (3.41)	24.5 (3.50)	22.7 (7.00)	22.4 (7.17)
Organization of materials	6.8 (2.25)	6.6 (2.50)	9.4 (3.50)	10.1 (3.93)
Monitor	14.7 (2.11)	12.9 (1.79)	15.1 (4.20)	14.0 (4.37)

TABLE 2. MEAN (SDs) FOR P.A.C.E. PROGRAM AND CONTROL GROUP

Discussion

The aim of this study is to test the efficacy of the Psychoeducation and Cognitive Exercises Program (P.A.C.E.) which was facilitated for 12 straight weeks to children with A.D.H.D. This study compared the levels of executive functions deficits, utilising the BRIEF as the instrument, before and after the program. The control group continued the academic program offered in the school they were enrolled in. Both groups had the highest level of deficit in Plan/Organize and slight deficit in the domain of the organization of materials. The results demonstrated that the deficits in the executive functions of the children in the experimental group significantly decreased in the five out of eight domains of BRIEF.

Consistent with literature, facilitating a behavioural intervention to children with ADHD shows promising effects to the participants. DuPaul & Stoner in 2003 (as cited by Gawrilow, Gollwitzer & Oettingen, 2011) reported that interventions improving the executive functions in children with ADHD are essential for the treatment of ADHD in childhood. In 2006, a review by Chronis et al concludes that the existing literature clearly supports the use of behavioural interventions in the treatment of childhood ADHD, both alone and in combination with stimulant treatment. While in 2009, a meta-analysis reviewed 174 studies of behavioural treatment in children with ADHD which yielded that across all designs, results consistently showed a large effect size for behavioural treatment for ADHD.

Cognitive Behavioral Therapy (CBT) in general uses the principles of rewards and consequences to shape target behaviour. (Ewans, Schultz and Sadler, 2008). Psychoeducation is one variation of CBT wherein the client together with the therapist would be able to discuss related topics of the condition or issue with the hope of understanding the situation and be able to become better individual. In this study, the participants even in the young age were educated on what their condition is all about. Myths such as having the condition may mean being crazy and useless was discussed and facts about ADHD were given. Information on what it is all about, how different or the same they are with the other children and the things they are able to do are just some of the things discussed. It was discussed in the simplest manner such as explaining using situations they commonly encounter and utilised pictures to be able to further illustrate the information.

The mounting number of commercial claims that computer-based cognitive training will provide significant and lasting improvement in attention, impulse control, social functioning, academic performance, and complex reasoning skills for children with ADHD could not have arrived at a better time—if these claims are veridical (Rapport, et. al, 2013). In this study, the cognitive exercises were varied using computer and actual educational toys (e.g. memory game, tan gram, puzzles, etc). The participants were initially observed as hesitant to try the different exercises hence when they seem to get hold of the mechanics, they were sometimes resistant to start new activities. The activities from one session would be repeated to the succeeding sessions depending on the pace of the participants.

P.A.C.E. utilised simple activities (e.g. building towers, completing puzzles etc) in order for these to be easily facilitated in the comforts of the home thus addressing the financial constraints of the families of the participants. The program shows significant improvements in majority of the domains of the executive functions for those who participated. Hence, when they were compared with those in the control group, significant differences were not noted. However, the post treatment scores reveal numerically that there are differences. Executive functions can be considered as the main term of the different mental processes since the purpose of one area overlaps another.

References

Journals

Anderson, CM, Gerard, E, Hogarty, GE, Reiss, DJ. (1980) Family treatment of adult schizophrenic patients: a psycho-educational approach. *Schizophrenia Bulletin.*, 6490–505.

Bauml, J., Frobose, T., Kraemer, S., et al. (2006). Psychoeducation: A Basic Psychotherapeutic Intervention for Patients With Schizophrenia and Their Families. *Schizophrenia Bulletin*, 32(1):1–9.

Bohlin, G., Forssman, L., Lundervold, A., et al. (2009). Independent Contributions of Cognitive Functioning and Social Risk Factors to Symptoms of ADHD in Two Nordic Populations-Based Cohorts. *Developmental Neuropsychology*, *34*(6), 721–735.

Chan, E., Mattingley, J., et. al. (2009).Abnormal spatial asymmetry of selective attention in ADHD. *Journal of Child Psychology and Psychiatry.* 50:9, 1064–1072

Chiang, H. & Gau, S. (2014). Impact of executive functions on school and peer functions in youths with ADHD. *Research in Developmental Disabilities.*, 35, 963 - 972.

Der Donk, M., Beernink, A., et al. (2013) Interventions to improve executive functioning and working memory in school-aged children with AD(H)D: a randomised controlled trial and stepped-care approach. http://www.biomedcentral.com/1471-244X/13/23

Fields, S.,Hale, L. (2011) Psychoeducational groups for youth attention-deficit hyperactivity disorder:a family medicine pilot project. *Mental Health in Family Medicine*, 157-165

Gavita, O., David, D. et. al. (2012). The efficacy of a short cognitive–behavioral parent program in the treatment of externalizing behavior disorders in Romanian foster care children: Building parental emotion-regulation through unconditional self- and child-acceptance strategies.*Children and Youth Services Review*. 34 (2012) 1290–1297.

Gawrilow, C., Gollwitzer, P. & Oettingen, G. (2011). If-The plans benefit executive functions in children with A.D.H.D. *Journal of Social and Clinical Psychology*. 30 (6),616-646 .

Healey, D. & Rucklidge, J. (2006).An Investigation into the relationship among ADHD symptomatology, creativity, and neuropsychological functioning in children. *Clinical Neuropsychology*. 12. 421 - 438.

Huang-Pollock, C. L., Karalunas, S. L., Tam, H., & Moore, A. N. (2012, March 19). Evaluating Vigilance Deficits in ADHD: A Meta-Analysis of CPT Performance. *Journal of Abnormal Psychology*. Advance online publication. doi: 10.1037/a0027205

Huang-Pollock, C., Maddox, T., & Karalunas, S. (2011). Development of implicit and explicit category learning. *Journal of Experimental Child Psychology*. 109.321–335.

Huang-Pollock, C,Karalunas, S.(2010) Working Memory Demands Impair Skill Acquisition in Children with ADHD. *Journal of Abnormal Psychology*.,174-185

Huang-Pollock, C., Mikami, A. et. al. (2009). Can Executive Functions Explain the Relationship Between Attention Deficit Hyperactivity Disorder and Social Adjustment?. *Journal of Abnormal Child Psychology*. 37:679–691.

Huang-Pollock, C. & Karalunas, S. (2013).Integrating Impairments in Reaction Time and Executive Function Using a Diffusion Model Framework. *Journal of Abnormal Child Psychology*.41:837–850.

Jakobson, A., & Kikas, E. (2007). Cognitive Functioning in children with and without AD/HD with and without Comorbid Learning Disabilities. *Journal of Learning Disabilities*. 40, 194 - 202.

Kendall J, Hatton D, Beckett A, et al. (2003). Children's accounts of attention-deficit/hyperactivity disorder. *ANS Advance Nursing Science*, 26:114–30.

Lambek, R., Tannock, R., Dalsgaard, S., Trillingsgaard, A., Damm, D., & Thomsen, P. (2010). Validating neuropsychological subtypes of ADHD: how do children with and without an executive function deficit differ?. J*ournal of Child Psychology and Psychiatry*, 51:8, 895 - 904.

Loo, S., Rich, E., et.al. (2008). Cognitive functioning in affected sibling pairs with ADHD: familial clustering and dopamine genes. *Journal of Child Psychology and Psychiatry.* 49:9, 950–957.

Mahone, M., Cirino, P., Cutting, L., Cerrone, P. et al.(2001). Validity of the behavior rating inventory of executive function in children with ADHD and/or Tourette syndrome. *Archives of Clinical Neuropsychology*.,17: 643–662.

McConaughty, S., Vulpe, R., et. al. (2011). Academic and Social Impairments of Elementary School Children with Attention Deficit Hyperactivity Disorder. *School Psychology Review,* (40) 2, 200 - 225.

Mikam, A., Huang-Pollock, C., et.al. (2007). Social Skills Differences among Attention-Deficit/Hyperactivity Disorder Types in a Chat Room Assessment Task. *Journal Abnormal Child Psychology*,35:509–521

Necee, C.,Baker, B., Lee, S.,(2013). ADHD among adolescents with intellectual disabilities: Pre- pathway influences. *Research in Developmental Disabilities*, 2268-2279

Park,L., Nigg,T., et.al. (2005). Association and linkage of a-2A adrenergic receptor gene polymorphisms with childhood ADHD. *Molecular Psychiatry*. 10, 572–580.

Parvinchi, D., Wright, L. et. al. (2014). Cognitive Rehabilitation for Attention Deficit/Hyperactivity Disorder (ADHD): Promises and Problems. *Journal of Canadian Academic Child Adolescent Psychiatry*, 207–217.

Pfiffner, L., Mikami, A., Huang-Pollock, C., et.al. (2007). A Randomized, Controlled Trial of Integrated Home-School Behavioral Treatment for ADHD, Predominantly Inattentive Type. *Journal of American Academic of Child and Adolescent Psychiatry*. 46:8, 1041 -1050.

Pazvantoglu, O., Akbas, S., Sarisoy, G, et al. (2014).Various ADHD-Associated Problematic Life Events in Parents of Children with ADHD Diagnosis. T*he Journal of Psychiatry and Neurological Sciences*., 27:61-68.

Rapport, M., Orban, S., et al. (2013). Do programs designed to train working memory, other executive functions and attention benefit children with ADHD? A meta-analytic review of cognitive, academic and behavioural outcomes. *Clinical Psychology Review*., 33 1237 - 1252.

Ramsay, J. & Rostain, A. (2011), CBT without medication for adult ADHD: An open pilot study of five patients. J*ournal of Cognitive Psychotherapy: An International Quarterly*, 25 (4), 277 - 286.

Rucklidge JJ & Tannock R. (2001). Psychiatric, psychosocial, and cognitive functioning of female adolescents with ADHD. *Journal of American Academic Child Adolescent Psychiatry*,40:530–40.

Seidman, L., Doyle, A., et al.(2004). Neuropsychological function in adults with attention-deficit/hyperactivity disorder. *Psychiatric Clinics of North America*,27: 261 - 282.

Thorell, L., Eninger, L., Brocki, K & Bohlin, G. (2010). Childhood Executive Function Inventory (CHEXI): A promising measure for identifying young children with ADHD?. *Journal of Clinical and Experimental Neuropsychology,* 32 (1), 38–43.

Yanez-Tellez, G., Romero, R., et al. (2012). Cognitive and executive functions in ADHD. *Actas Esp Psiquiatr*., 293-298

Young, S., Amarasinghe, J. (2010). Practitioner Review: Non - pharmacological treatments for ADHD: A lifespan approach. *Journal of Child Psychology and Psychiatry*.,116-133

Books

Diagnostic Statistical Manual. 2014. American Psychiatric Publishing, USA

Creswell, J.*Educational Research*. 4th Edition. Pearson Education, Inc. Boston, MA 0216. 2012

Creswell, J. *Research Design*. 4th edition. Sage publications. Oaks, California, 2014

Lougy, R., DeRuvo, S., Rosenthal MD, D. *The school Counselor's Guide to ADHD*. Sage Publications. Oaks, California, 2009

Solanto, M. *Cognitive-Behavioural Therapy for Adult ADHD*. A Division Of Guilford Publications, Inc. New York, NY 10012, 2011

Young, S. and Bramham, J. *Cognitive - Behavioral Therapy for ADHD in Adolescents and Adults: A Psychological Guide to Practice*. 2nd edition. 2012. John Wiley & Sons, Ltd. UK

Websites

http://www.cognitive-remediation.com retrieved January 2015

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2683741/ retrtieved December 2014

http://www.apadivisions.org/division-16/publications/newsletters/school-psychologist/2012/07/executive-functioning-profiles.aspx retrieved September 2014

http://www.real-statistics.com/students-t-distribution/paired-sample-t-test/ retrieved June 2014

http://pareonline.net/getvn.asp?v=7&n=17 retrieved June 2014

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Teaching Assertiveness to International Students in the United States

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Introduction

In recent years the number of international students around the world has risen sharply, and the United States has been the most popular destination for students who want to attend college in a foreign country (Coughlan, 2011). Students from Asian countries constitute 62% of the total number of international students in the United States, and by far the largest number of Asian students enrolled in American colleges and universities come from the People's Republic of China. Recent estimates indicate that Chinese students account for more than 20% of the international college student population in the U.S. (Institute of International Education, 2011).

Cultural Differences and Acculturative Stress

Although the nature and level of acculturative stress vary from student to student, it is common for Asian international students in the United States to experience homesickness, culture shock, language difficulties, racial discrimination, and social isolation (Yeh & Inose, 2003). Fundamental differences between Asian and non-Asian cultures contribute to acculturative stress. Compared to their American peers, Asian students are often more reserved, less assertive, and more reluctant to express personal opinions. They tend to be have a more collectivist social orientation, and to feel discomfort with American individualism and competitiveness. In comparison to American students, Asian students tend to be modest about their accomplishments (Liu, 2009).

Cultural differences often lead to negative social consequences for Asian international students in the United States. Coming from societies with a more collectivist orientation, Asian students often have different expectations of friendships than their American counterparts. This can lead them to experience their relationships with Americans as superficial, and to feel disappointed and discouraged about their initial hopes of forming deep and meaningful relationships with American students (Mori, 2000).

Major differences in the Asian and American educational systems also contribute to acculturative stress. Compared to American classrooms, Asian classrooms tend to be more formal, with students adopting a more passive and receptive mode (Chen, 1999; Mori, 2000). The adjustment to the norms of an American classroom can be difficult, as evidenced by the following quotations from Asian international students:

> "In my country I listened more to lectures. Here there is more class discussion, group activities, interaction among students."

> "Here I spend a lot of time in class, but I don't feel as though I learn as much. I don't take away as much information."

> "I had trouble at first knowing what my role in class was. The atmosphere was freestyle. Should I say something? Should I just listen?"

Ultimately Asian international students in the United States must decide whether and to what extent they want to maintain their cultural values and identities or, alternatively, flex to American cultural values and develop attitudes and behaviors that will contribute to their comfort and success in an American educational environment. This process involves increasing one's awareness of interpersonal and intrapersonal conflicts, such as the tension between the self and the collective, and the

conflict between Asian and non-Asian values. One must also reflect on one's options with regard to compromising. For example, should students assert themselves in contradiction to collectivist expectations?

Benefits of Assertiveness Training

The goal of assertiveness training is to teach individuals how to express their thoughts, feelings, and wishes while being respectful of the feelings and needs of others. Assertiveness, which can be defined as standing up for oneself and at the same time being considerate towards others, is distinguished from three other communication styles: passive, in which a person fails to stand up for himself or herself and may be victimized or otherwise taken advantage of by others; aggressive, in which a person stands up for himself or herself but in a way that is disrespectful to and inconsiderate of others; and passive-aggressive, in which an individual's verbal communication and behavior are contradictory, e.g., one is acquiescent and passive, while the other is aggressive (Alberti, & Emmons, 2008; Bourne, 2015). Sarcasm and the "silent treatment" are examples of passive-aggressive communication.

Assertiveness training has been associated with increased academic confidence and enhanced sociocultural adjustment among international students in the United States (Lee, & Ciftci, 2014; Poyrazli, Arbona, Nora, McPherson, & Pisecco, 2002). Students who received assertiveness training were better able to complete academic tasks, speak up in class, and ask for help when needed. These are important behaviors for students to master in order to achieve success in the American educational system.

Assertiveness training was also associated with decreases in manifestations of acculturative stress, including depression, anxiety, homesickness, and feelings of guilt. Students who participated in assertiveness training reported not only decreases in these negative symptoms, but also increases in self-esteem and positive affect (Tavakoli, Lumley, Higazi, Slavin-Spenny, & Parris, 2009).

International Students at the University of Minnesota

The University of Minnesota was established in 1851 in the Twin Cities of Minneapolis and St. Paul as Minnesota's flagship land-grant university. Its mission is to change lives through education, research and outreach. The university is the sixth largest in the United States, with more than 50,000 enrolled students and 4,000 employed faculty (University of Minnesota, 2015a).

During the 2013-2014 academic year almost 6,000 international students from more than 130 countries attended the University of Minnesota. International students make up more than 10% of the total student population, with approximately one-third coming from Asian countries. The largest number, more than 1,500, come from the People's Republic of China, followed by the Republic of Korea, Malaysia, Vietnam, and India (University of Minnesota, 2015b).

Assertiveness Training at the University of Minnesota

University Counseling and Consulting Services (UCCS) offers individual and group counseling to University of Minnesota students. The Assertive Communication Workshop is one of the most popular psycho-educational groups available to students. It is offered every semester, including summer, and many students who register for the workshop are Asian international students.

The workshop consists of six sessions, each 90 minutes long, and co-led by two counselors. The sessions focus on students' thoughts, feelings, and behaviors. The facilitators explain to students that one's thoughts and behaviors can be assertive or unassertive, and that thinking and acting assertively or unassertively affects one's emotions.

Facilitators begin by defining assertiveness as expressing and standing up for oneself while respecting the rights and needs of others. They help students to understand the differences between assertive, passive, aggressive, and passive-aggressive communication styles; to recognize what is and what is not assertive communication; and to distinguish between the benefits of assertive communication and its limitations. Important and useful discussions are held about cultural factors influencing one's decision about whether to communicate assertively. Facilitators and students often address differences between Asian and American communication norms, and consider what is and is not appropriate in different environments. This contributes to a deeper understanding of cultural differences, available communication options, and the importance of considering one's environment and audience.

Students engage in a self-assessment of their communication behaviors, e.g., with whom and in what situations do they tend to communicate in a passive, assertive, aggressive, or passive-aggressive manner? They also reflect on the beliefs and emotions that prevent them from communicating assertively. For example, one student might believe that communicating directly is rude, while another student might feel guilty about declining a friend's request, however unreasonable.

Practicing assertive communication behaviors is an important part of the workshop experience. Initially students respond to hypothetical situations, e.g., giving a friend some corrective feedback, asking a professor for help, declining a classmate's request. After this initial practice, they progress to work on situations they are struggling with in their own lives. Each participant is first asked to describe the problem situation in detail, including who is involved, what the issue is, what they fear might happen if they are assertive, and what they would like to accomplish. After describing a problem situation, the student is asked to develop an assertive response, which may include identifying his or her rights as a person, expressing thoughts and feelings, and asking for what he or she wants. Students role-play in pairs, giving each other feedback on their assertive communication skills. The real-life scenarios are then discussed with all the participants, who offer support, feedback, and suggestions. Students are encouraged to practice "in the real world," and are reminded that, like any new skill, improvement in assertive communication requires patience, practice, and persistence.

Student evaluations of the Assertive Communication Workshop are routinely very positive. International students in particular comment on gaining understanding of American communication norms and developing skills that will improve their social interactions in the United States. The following are some representative comments from workshop participants:

"The messages and concepts conveyed were great, and are things everyone could benefit from."

"This was an awesome workshop which has shown me there are so many things I can do in my life."

"The workshop was very helpful and informative, and everyone was supportive and inclusive."

"The diversity of people with different forms of expression helped me become aware of my own communication style in different situations."

Conclusion

Assertiveness training can help international students, particularly students from Asian countries, to adjust to living and studying in the United States. It can enhance their understanding of American communication norms, increase their confidence when interacting with American students and professors, and decrease their experiences of discomfort and confusion in educational and social environments. When students learn how to think and behave assertively, as well as to manage difficult emotions that are often associated with assertive communication, they gain awareness of both self and others and a greater sense of empowerment.
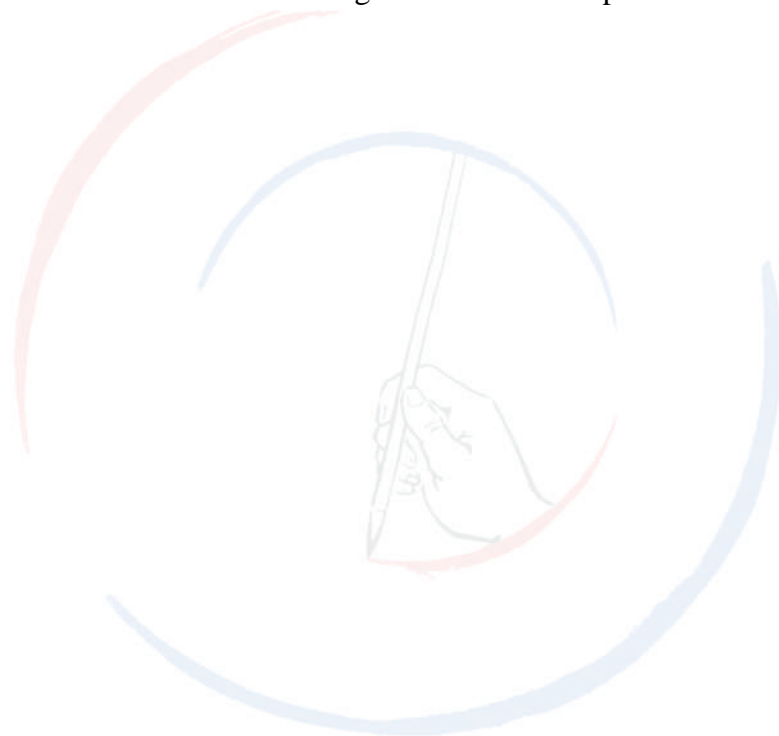
References

Alberti, R. E., & Emmons, M. L. (2008). Your perfect right: Assertiveness and equality in your life and relationships (9th ed.). Atascadero, CA: Impact Publishers.

Bourne, E. (2015). The anxiety and phobia workbook (6th ed.). Oakland, CA: New Harbinger Publications, Inc.

Chen, C. P. (1999). Common stressors among international college students: Research and counseling implications. Journal of College Counseling, 2, 49-62.

Coughlan, S. (2011). Record numbers of international students. BBC News. Retrieved from http://www.bbc.com/news/business-12671198

Hijazi, A. M., Tavakoli, S., Slavin-Spenny, O. M., & Lumley, M. A., (2011). Targeting interventions: Moderators of the effects of expressive writing and assertiveness training on the adjustment of international university students. International Journal for the Advancement of Counseling, 33, 101-112.

Institute of International Education (2011). Open door 2011 "Fast Facts": International students in the U.S. Retrieved from: http://www.iee.org/Research-and-Publications/Open-Doors

Lee, J., & Ciftci, A. (2014). Asian international students' socio-cultural adaptation: Influence of multicultural personality, assertiveness, academic self-efficacy, and social support. International Journal of Intercultural Relations, 38, 97-105.

Liu, M. (2009). Addressing the mental health problems of Chinese international college students in the United States. Advances in Social Work, 10(1), 69-86.

Mori, S. (2000). Addressing the mental health concerns of international students. Journal of Counseling and Development, 78, 137-144.

Nilsson, J. E., Berkel, L. A., Flores, L. Y., & Lucas, M.S. (2004). Utilization rate and presenting concerns of international students at a university counseling center: Implications for outreach programming. Journal of College Student Psychotherapy, 19(4), 49-59.

Poyrazli, S., Arbona, C., Nora, A., McPherson, R., & Pisecco, S. (2002). Relation between assertiveness, academic self-efficacy, and psychosocial adjustment among international graduate students. Journal of College Student Development, 43(5), 632-642.

Tavakoli, S., Lumely, M.A., Hijazi, A.M., Slavin-Spenny, O.M., & Parris, G. P. (2009). Effects of assertiveness training and expressive writing on acculturative stress in international students: A randomized trial. Journal of Counseling Psychology, 56(4), 590-596.

University of Minnesota (2015). About us. Retrieved from: http://twin-cities.umn.edu/about-us

University of Minnesota (2015b). International student and scholar services. Retrieved from: http://www.isss.umn.edu/office/

Yeh, C. J., & Inose, M. (2003). International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress. Counseling Psychology Quarterly, 16(1), 15-28.

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The Effect of Post-Learning Caffeine Consumption on the Learning and Retrieval of Non-Verbal Stimuli

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Abstract

The present study aimed to conceptually replicate a recent study showing improvements in cognition when caffeine was consumed following learning. Thirty-two non-naive participants were administered 200mg of caffeine either: Pre-Learning, Post-Learning, or At-Retrieval, and compared to non-caffeine administered Controls. The learning and retrieval of non-verbal stimuli was assessed using a Korean Characters Non-Verbal Learning task, derived from the Shum Visual Learning task. Participants administered caffeine Pre-Learning and At-Retrieval were found to have significantly better initial learning of target stimuli than the Post-Learning and non-administered Controls. There was no significant difference found between groups on retrieval of the learned stimuli following a 20 minute interval between learning and retrieval. The findings suggested that the timing of caffeine consumption did not influence retrieval. While the improvements in initial learning of target stimuli demonstrated by the groups administered caffeine Pre-Learning and At-Retrieval appeared to be a potential placebo or expectancy effect.

Keywords: caffeine consumption, cognition, learning and retrieval, recognition

Caffeine is the most commonly used stimulant globally (Gilbert, 1984; Gray, 1998). Reports indicate that the average amount of caffeine consumed by individuals from all dietary sources is approximately 75 mg per day in Non-Western countries, and approximately 200 mg per day in Western countries (Barone & Roberts, 1996; Gilbert, 1984; Gray, 1998). Globally, caffeine is predominantly consumed through drinking coffee with the estimated dose of caffeine contained within a single cup of coffee varying between 20 mg to 175 mg depending on the serving size, preparation and type of coffee bean used (D'Amicis & Viani, 1993). Previous research has shown that approximately 100mg of caffeine can be sufficient to induce possible behavioural and cognitive changes in animals and humans (Glade, 2010; Nehlig, 1999). The effect of caffeine consumption on cognition was initially demonstrated using animals (Fredholm, Bättig, Holmén, Nehlig, & Zvartau, 1999). These cognitive effects have not reliably replicated in humans, however, as findings were often mixed and inconclusive (Herz, 1999; Maia & Mendonça, 2002; Nehlig, 2010; Rees, Allen, & Lader, 1999; Ryan, Hatfield, & Hofstette, 2002).

Caffeine is believed to cause behavioural changes in animals and humans as it is a type of stimulant known as a Methyltheobromine (Arnaud, 1987; Blanchard & Sawers, 1983; Smith, 2002). Studies originally examining the behavioural effects of caffeine consumption revealed there to be no blood-brain barrier to caffeine in animals after absorption (Lachance, Marlow, & Waddell, 1983). Once consumed, Methyltheobromines are also rapidly absorbed through the gastrointestinal tract (Bonati, Latini, Galetti, Young, Tognoni, & Garattini, 1982; Mandel, 2002). Peak concentration of caffeine has been recorded within the first 15 minutes of ingestion with an estimated half-life ranging between 2.5 – 4.5 hours for doses of 5mg/kg in humans (Arnaud, 1993; Arnaud & Welsch, 1982; Fredholm et al., 1999).

Physiologically, caffeine has been shown to elevate excitability in the hippocampus of animals and humans during peak concentration (Arushanian & Belozertsev, 1978; Dunwiddie, Hoffer, & Fredholm, 1981; Lorist & Tops, 2003; Phillis & Kostopoulos, 1975). The hippocampus contains highly concentrated levels of adenosine receptors which are responsible for decreasing the rate at which neurons fire, thereby, inhibiting synaptic transmission and subsequent release of most neurotransmitters (Dunwiddie, Hoffer, & Fredholm, 1981; Nehlig, Daval, & Derby, 1992; Nehlig, Lucignani, Kadekaro, Porrino, & Sokoloff, 1984). Caffeine is believed to act as an antagonist for adenosine receptors (Mandel, 2002; Nehlig et al., 1992; Nehlig et al., 1984).

Therefore, caffeine appears to increase the turnover of neurotransmitters, especially in areas of the brain where adenosine receptors are highly concentrated (Nehlig, 1999; Nehlig et al., 1984; Nehlig et al., 1992). The hippocampus has consistently been implicated in learning and retrieval dating back to early clinical observations of patients with memory and learning deficits attributed to hippocampal damage (Penfield & Pérot, 1963; Scoville & Milner, 1957). Following these early clinical observations, research targeting the hippocampus showed it to be specifically involved in storing and processing learned information as well as the consolidation of memory (Izquierdo, 1974; Landfield, Tusa, & McGaugh, 1974; McGaugh & Dawson, 1971; McGaugh, 2000; Penfield & Pérot, 1963). Therefore, caffeine consumption appears to influence learning and retrieval by modulating the function of the hippocampus.

A recent study by Borota et al. (2014) suggested that caffeine consumed after learning a set of stimuli subsequently improved the memory consolidation of participants. The Borota et al. (2014) finding suggested timing of caffeine ingestion as an important and previously unexplored variable in the investigation of the effect of caffeine on cognitive performance. This finding offered a new paradigm to consider when conducting research on the effect of caffeine on cognition. Subsequently, the present study also aimed to investigate the relationship between the timing of caffeine consumption and cognition. The Borota et al. (2014) study found that participants administered caffeine following the learning hippocampal memory dependent non-verbal stimuli, reported subsequent improved memory consolidation. However, the stimuli used in the Borota et al. (2014) study were pictures of commonplace items that participants would have likely had prior exposure to. It may then be argued that the stimuli used in the Borota et al. (2014) were not in fact non-verbal as there would have been pre-existing verbal mapping of these commonplace items. Therefore, an alternative task using uncommon stimuli would be more appropriate in order to remove the internal threat of pre-existing verbal mapping of common items used as stimuli.

The overall aim of the present study was to conceptually replicate the Borota et al. (2014) study. The present study employed a similar methodology but did not incorporate a typical placebo administered group as it was argued that this group was not required due to the methodological problems typical placebo controls can sometimes create (Kaptchuk, 1998; Kienle & Keine, 1996; McDonald, Mazzuca, & McCabe, 1983). As well as the practical problem of obtaining a suitable placebo tablet not containing glucose, a potentially confounding substance also previously shown to influence cognition (Gold, 1995). Rather, the proposed design of the current study used four groups for comparison, administered caffeine at varying times throughout the study; prior to the learning of non-verbal stimuli, immediately following the learning of non-verbal stimuli and immediately prior to the retrieval of non-verbal stimuli.

Commonplace items used as stimuli and potentially confounding the results of the Borota et al. (2014) study was addressed using a learning and retrieval task labelled the Shum Visual Learning Test (SLVT) which used characters of an unfamiliar language as stimuli (Eadie and Shum 1995). A modified version of the SLVT would ensure participants had an equal level of previous exposure to the stimuli and counter the threats to internal validity when compared to the Borota et al. (2014) study. The modified SLVT contained a primary measure of the accuracy of correctly selecting targets (hit rate) in proportion with incorrectly selecting distractors (false positive) on each trial, referred to as the Recognition score. As participants progressed through the task and were repeatedly presented with the target stimuli, initial learning and would be demonstrated by an increase in the proficiency of correctly identifying the target stimuli amongst the distractors across the learning phase. This was labelled the Initial-Learning score of participants in the present study. A measurement assessing participant's consistency of positive hits of the target stimuli during the learning phase, labelled Initial-Retention score, was also used in the replacement task. To assess retrieval, the replacement task contained two further measures. The first measure was the degree of retention of target stimuli in the retrieval phase, following the release of any potential interference from the distractor stimuli presented during the learning phase labelled the Retention-Post-Interference score.

The second measure of retrieval was the measure of retention following the release from the interference created by the newly introduced distractor stimuli in the retrieval phase, or Delayed-Retention score. This would indicate the extent to which participants could continue to correctly distinguish target stimuli amongst the newly introduced distractors in the retrieval phase of the task.

In summary, the first hypothesis aimed to address the equivocal nature of previous caffeine and cognition research. Therefore, the present study aimed to find be a significant improvement in learning of non-verbal stimuli, measured using Initial-Learning and Initial-Retention scores, for the Pre-Learning caffeine administered group compared to the non-caffeine administered Control group. The second hypothesis, similar to the Borota et al. (2014) study, aimed at demonstrating a significant improvement in retrieval of non-verbal stimuli, measured using Retention-Post-Interference and Delayed-Retention scores, for the group administered caffeine Post-Learning compared to participants administered caffeine Pre-Learning. To measure any potential effect of caffeine administration directly prior to retrieval the third hypothesis, similar to the first, stated that there would be a significant improvement in retrieval, again measured using Retention-Post-Interference and Delayed-Retention scores, for the group administered caffeine At-Retrieval compared to the group administered caffeine Post-Learning.

Method
Participants
A total of 32 participants completed the study, ranging in age between 18 and 60 ($M = 27.03$, $SD = 10.60$) and sex (males $n = 8$ and females $n = 24$). Participants reported an approximate period of 24 hours ($M = 21.61$, $SD = 26.89$), on average, since last caffeinated drink and an average caffeine intake of approximately 2 cups ($M = 1.88$, $SD = .97$) of caffeinated beverages per day.

Materials
Korean Characters Non-Verbal Learning task (KCNVL). Learning and retrieval was measured using the computerised KCNVL task. The KCNVL is derived from the SLVT which uses Chinese characters that were originally argued to be relatively unfamiliar due to minimal exposure in Western society (Shum, Gorman, & Eadie, 1999). The SLVT has previously been used as a suitable alternative to non-verbal learning tasks by demonstrating stable criterion and predictive validity in studies of children with head injuries (Shum et al., 1999). However, considering there are almost 1.3 billion native speaking Chinese people, Korean Hangeul characters are argued to be more appropriate stimuli as previous exposure is expected to be far less with a Korean speaking population of less than 50 million (United Nations – Department of Economic and Social Affairs, 2012).

The KCNVL involves the learning of characters of an unfamiliar alphabet, the Korean Hangeul alphabet. The KCNVL comprises of two phases: an initial learning phase containing five trials and a retrieval phase containing three trials, with a 20 minute interval in-between.

Figure 1. Example Korean Hangeul target character used in the KCNVL task.

The learning phase is completed first and involves five individual trials. At the beginning of each trial a standard output box is presented containing instructions for a masking task in which participants are asked to count the number of strokes that constitute the presented characters with no input required. Ten simplified Korean characters are then presented in a randomised order at a rate of one per two seconds, separated by a one second black screen. Following this, a similarly styled output box instructs participants that a grey cursor appearing at the top left hand corner of the screen is a signal for the participant to respond. Participants are instructed to press the 'Y' key if the character is recognised or 'N' if the character is unfamiliar. The ten Korean characters used earlier in the trial are then randomly presented amongst ten distractors at a rate of one per two seconds, separated by a one second blank black screen and the grey cursor input screen. The grey cursor input screen is displayed for 2 seconds. Following the 20 character presentations, the individual trial concludes and participants are returned to the trial selected screen. Participants complete trials one - five in a similar fashion with an output box following the completion of the fifth trial alerting the participants of the 20 minute required interval before beginning the subsequent trials in the retrieval phase.

Trial six is then completed in a similar fashion using the same target and distractor stimuli with participants expected to learn the distractor set gradually after the repeated exposure. Trial seven and eight are also completed in a similar fashion using the same target stimuli with a different set of distractors. Over the course of the six earlier trials the participant is repeatedly exposed to the same set of distractors and inadvertently begins to learn the distractor set implicitly, which leads to a gradual increase in interference from the original set of distractors. The new distractors are, therefore, introduced to release the participant from this interference. The complete stimulus set ($n = 30$) consists of 10 Korean Hangul characters for learning, ten distracter characters for trials one – six, and ten new distracters for trials seven and eight.

Scoring of the eight trials of the KCNVL task is based on a measure of Recognition, $p(A)$, incorporating both hit rate (HR) and the false positive rate (FP). The formula for calculating $p(A)$ is:

$$p(A) = 0.5 \left(1 + HR - FP\right).$$

Four learning measures are calculated using the $p(A)$ obtained from each of the eight trials. An Initial-Learning score measuring the degree which target stimuli are learned

in the initial learning phase of the KCNVL task using the mean recognition over the first five trials:

$$\frac{(trial1\ p(A) +\ trial2\ p(A) +\ trial3\ p(A) +\ trial4\ p(A) +\ trial5\ p(A))}{5}.$$

An Initial-Retention score calculated by comparing the hit rate of the target stimuli on trial one with the hit rate of the target stimuli on trial five, with the hit rate on trial one expected to be more accurate than trial five as a result of the subsequent repeated exposure to the distractors:

$$\frac{trial5\ (HR)}{trial1\ (HR)}.$$

A Retention-Post-Interference score measuring the extent of which distractors from the first five trials of the learning phase of the task interfered with retrieval in trial seven when the ten new distractors were presented:

$$\frac{p(A)trial\ 7}{p(A)trial\ 5}.$$

Finally, a Delayed-Retention score measuring the extent to which the ten newly introduced distractors interfered with retrieval during the retrieval phase by comparing the recognition scores of trials seven and eight:

$$\frac{p(A)trial8}{p(A)trial7}.$$

During the task each character in the entire stimulus set is presented as white on a black background filling the entire screen. Each target and distractor character is centred with a resolution of 145 by 135 pixels and a height of 6.1cm by width of 5.7cm. All instructions are presented in black font on a grey background as part of standard input boxes which are also used for entry of demographic information.

Caffeine. A standard 200mg dose of NoDoz® branded caffeine tablets administered with 250 ml of water. NoDoz® branded caffeine was used as it contained the least amount of impurities allowing for higher internal validity.

Filler task. A paper-based word find task is used as a filler task in the 20 minute interval between the learning and retrieval phase of the KCNVL.

Procedure

The five trials in the initial learning phase of the KCNVL task were completed first by each participant. Participants randomly assigned to the Pre-Learning administration condition were administered 250ml of water and two, 100mg caffeine NoDoz® tablets to ingest orally prior to commencement. Once completed, participants alerted the researcher and those participants randomly pre-assigned to the Post-Learning administration condition were administered 250ml of water and two 100mg caffeine NoDoz® tablets to ingest orally.

Prior to the retrieval phase, a 20 minute break period was observed, in which participants were given a pen and the filler task word-find puzzle to complete. Upon the conclusion of the 20 minute interval, participants randomly pre-assigned to the At-

Retrieval administration condition were administered 250ml of water and two 100mg caffeine NoDoz® tablets to ingest orally. All participants then completed the three trials in the retrieval phase of the KCNVL task. At the conclusion of the study, those participants pre-assigned to the non-administered control group were advised of their random allocation to the group. These participants were offered two 100mg caffeine NoDoz® tablets to ingest if they so desired.

Results
Preliminary Analysis
Learning and retrieval.

A four (*caffeine-timing*: Pre-Learning, Post-Learning, At-Retrieval and Control) by two (*gender:* male and female) way Multivariate Analysis of Covariance was used to examine the between subject effect of caffeine-timing on participants' combined learning and retrieval measures including: Initial-Learning, Initial-Retention, Retention-Post-Interference and Delayed-Retention with age, hours since last caffeinated drink and average daily caffeine intake as covariates. There was no significant effect of the covariates: age $F(4, 19) = 1.14$, $p = .37$, hours since last caffeinated drink $F(4, 19) = .37$, $p = .83$ and average daily caffeine intake per cup $F(4, 19) = .78$, $p = .78$. There was also a no significant effect of gender $F(4, 19) = 2.04$, $p = .13$. Consequently, gender, age, hours since last caffeinated drink, and average daily caffeine intake per cup variables were dropped from the analysis.

A four (*caffeine-timing*: Pre-Learning, Post-Learning, At-Retrieval and Control) by one way Multivariate Analysis of Variance (MANOVA) again examining the between subject effect of caffeine-timing on participants' combined learning and retrieval scores including: Initial-Learning, Initial-Retention, Retention-Post-Interference and Delayed-Retention, revealed a significant main effect of caffeine-timing $F(12, 66) = 2.94$, $p < .01$, partial $\eta^2 = .31$, observed power = .95.

Follow-up analyses revealed a significant main effect of caffeine-timing on participants' Initial-Learning scores $F(3, 28) = 11.67$, $p < .01$, partial $\eta^2 = .56$, observed power approaching 1 (see Figure 2). No significant effects of caffeine-timing were found between participants' Initial-Retention scores $F(3, 28) = 1.02$, $p = .40$, Retention-Post-Interference scores $F(3, 28) = 1.80$, $p = .17$ and Delayed-Retention scores $F(3, 28) = .44$, $p = .73$. The range of obtained Initial-Learning, Initial-Retention, Retention-Post-Interference and Delayed-Retention scores are presented in Table 1.
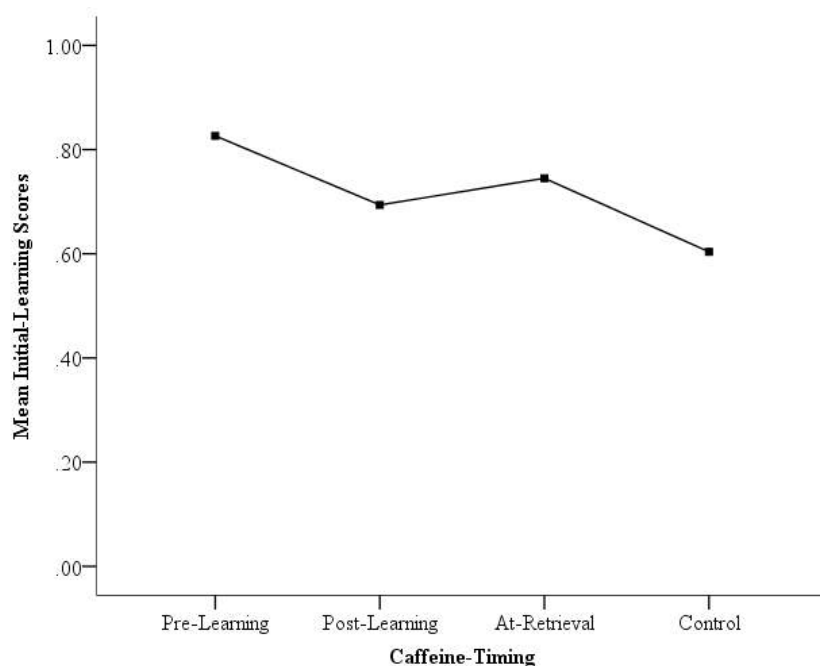
Figure 2. Initial-Learning means of participants across the four levels of caffeine-timing.

Table 1.
Ranges of obtained scores for the four learning variables

Measure	Minimum	Maximum
Initial-Learning	.50	.94
Initial-Retention	.60	1.44
Retention-Post-Interference	.63	1.90
Delayed-Retention	.50	1.09

Note. $n = 32$

Follow-up comparisons to assess for significant differences between the four caffeine-timing groups on mean Initial-Learning scores were completed using a Tukey b post hoc analysis. The Tukey b technique controls for family wise error inflation and therefore reduces the risk of making a Type 1 error, whilst avoiding a Type 2 error. This revealed the Pre-Learning administered group to have significantly higher mean Initial-Learning scores when compared to the Post-Learning caffeine administered group and the non-administered Control group (see Table 2).

There was no significant difference between the Pre-Learning administered group mean Initial-Learning scores and the At-Retrieval administered group mean Initial-Learning scores. There was also no significant difference between the At-Retrieval mean Initial-Learning scores and the Post-Learning administered group mean Initial-Learning scores. Finally, there was no significant difference between the Post-Learning administered group mean Initial-Learning scores and the non-administered Control group mean Initial-Learning scores.

Table 2.
Learning measure means and standard deviations across caffeine-timing conditions.

Measure	Pre-Learning M (SD)	Post-Learning M (SD)	At-Retrieval M (SD)	Control M (SD)
Overall Learning	.83 (.09)	.69 (.10)	.75 (.06)	.60 (.06)
Initial-Retention	1.01 (.17)	.95 (.09)	.94 (.28)	1.08 (.13)
Retention-Post-Interference	1.01 (.14)	1.33 (.39)	1.05 (.30)	1.21 (.35)
Delayed-Retention	.75 (.12)	.80 (.19)	.80 (.15)	.85 (17)

Note. n = 32

Discussion

The rational for the current study arose from the previous inconclusive research regarding the effect of the consumption of caffeine on cognition (Herz, 1999; Maia & Mendonça, 2002; Nehlig, 2010; Rees et al., 1999; Ryan et al., 2002). It was firstly hypothesised that there would be a significant improvement in learning of non-verbal stimuli, measured using Initial-Learning and Initial-Retention scores, for the Pre-Learning caffeine administered group when compared to the non-caffeine administered Control group. This was partially supported as there was found to be a significant difference in Initial-Learning of target stimuli for those administered caffeine prior to learning when compared to the non-administered controls. There was no significant difference, however, between the Pre-Learning caffeine administered group and the non-caffeine administered Control group on the Initial-Retention of target stimuli over the first five learning trials.

Secondly, it was hypothesised that there would be a significant improvement in the retrieval of non-verbal stimuli, measured using Retention-Post-Interference and Delayed-Retention scores, for the group administered caffeine Post-Learning compared to the group administered caffeine Pre-Learning. This was rejected, as there was no significant difference between those administered caffeine Post-Learning on the retrieval of target stimuli, relative to those administered caffeine Pre-Learning in the present study. Participants in the group administered caffeine Post-Learning were not significantly better than those administered caffeine Pre-Learning at identifying the learned target stimuli in the retrieval phase, following the 20 minute interval and expected release from interference caused by initial distractors.

Participants in the Post-Learning caffeine administered group were also not found to demonstrate significantly improved Delayed-Retention than those in the Pre-Learning caffeine administered group. Thirdly, it was hypothesised that there would be a significant improvement in retrieval, again measured using Retention-Post-Interference and Delayed-Retention scores, for the group administered caffeine At-Retrieval compared to the group administered caffeine Post-Learning. This was not supported as there was no significant difference between the At-Retrieval caffeine administered group and the Post-Learning caffeine administered group on both retrieval measures.

The non-significant findings of the present study did not support the new model proposed by Borota et al. (2014) claiming that post learning caffeine consumption would improve memory consolidation. Interestingly, the Pre-Learning caffeine group demonstrated the highest initial learning of the target stimuli in the present study, providing some evidence for prior research showing improvements in participant's cognition when caffeine was consumed prior to the completion of cognitive tasks (Herz, 1999; Ryan et al., 2002). Even more surprising was that participants that were administered caffeine much later on in the task, At-Retrieval, also showed equally high initial learning of target stimuli in the learning phase.

One possible explanation for the improved initial learning of the target stimuli demonstrated by the group administered caffeine prior to the learning was that this was due to an expectancy or placebo effect. For ethical reasons, participants in the present study were informed of the aim of the study, specifically, the goal of examining the effect of caffeine on cognition. Once informed of the aim of the study, participants then went on to complete the learning phase of the KCNVL task. The learning phase of the KCNVL task incorporated the Initial-Learning measure which assessed the extent to which the target stimuli had been learned, calculated from the average Recognition scores over the first five trials of the KCNVL task.

When considering the pharmacology of caffeine, however, the group administered caffeine prior to the learning phase of the KCNVL task may be argued to have completed the learning phase without the physiological effect of caffeine as it would not have manifested until approximately 15 minutes after ingestion (Fredholm et al., 1999). Or, the approximate time taken to complete the initial learning phase of the KCNVL task. Therefore, any initial learning improvements for the Pre-Leaning caffeine administered group compared to non-caffeine administered Control group, also not experiencing the physiological effect of caffeine, would indicate the potential existence of a placebo effect. In the current study, participants in Pre-Learning caffeine administration group, having just been informed of the nature of the study and not yet experiencing the physiological effect of caffeine, went on to record the highest mean Initial-Learning scores. The simple act of ingesting the tablets or the anticipation of being assessed cognitively appears to have improved their cognition.

While plausible, the equally high mean Initial-Learning scores of the group administered caffeine 20 minutes after the learning at the retrieval phase of the KCNVL task somewhat discount this explanation. The At-Retrieval group showed equally high Initial-Learning of the target stimuli, while having not yet been administered caffeine during the learning phase of the KCNVL task. Therefore, a placebo effect does not explain why these participants demonstrated improved initial learning of target stimuli. The non-naive At-Retrieval caffeine administered group was not yet subject to the physiological effects of caffeine in the learning phase as they would have experienced these effects much later on in the retrieval phase. Interestingly, when administered caffeine immediately prior to retrieval, these participants did not demonstrate improved Retention-Post-Interference or Delayed-Retention scores similar to the placebo induced immediate improvements as the Pre-Learning caffeine administered group. Therefore, while a placebo effect may explain the unexpected performance for the Pre-Learning caffeine administered group, an expectancy effect appears to explain the unusual performance on the initial learning of the target stimuli for the group administered caffeine At-Retrieval.

When compared with the Borota et al. (2014) study, one potential limitation of the current study was the threat to internal validity created by the absence of a direct measure of participant's caffeine metabolite levels to control for individual differences in caffeine absorption. Conversely, it may be argued that any possible confounds created from prior caffeine contamination were seen to be adequately controlled for in the present study as participants reported an average period of approximately 24 hours since last caffeinated drink. When considering the 4.5 hour half-life of caffeine in humans, it could also be assumed that participants were relatively free of any residual caffeine effects that may have influenced performance regardless of individual caffeine metabolising rates (Fredholm et al., 1999).

Also of note was the self-reported caffeine consumption expressed as average cups of coffee (or other caffeinated beverages such as tea or soft drink) consumed per day. The present sample contained similar daily consumption averages to the current estimated population average daily caffeine consumption (D'Amicis & Viani, 1993; Mandel, 2002; Nehlig, 2010). This suggests that the participants in the present study where representative of the population with regards to daily caffeine consumption. The threat to internal validity arising from prior caffeine consumption was argued to be effectively addressed, while still maintaining ecological validity in terms of population caffeine consumption. A factor not considered by Borota et al.'s (2014) use of only caffeine naïve participants.

As caffeine is such a widely used substance, the potential implications of any findings of the current study were expected to have a high degree of generalizability (Gilbert, 1984; Nehlig, 2010). The findings of this study, instead, suggest that more methodologically sound experimental research is required. Additionally, the suspected placebo or expectancy effect found for the groups administered caffeine Pre-Learning and At-Retrieval showed that caffeine consumed and not yet physiologically active, as well as the anticipation of cognitive assessment may have improved initial learning of target stimuli. Adding to the previous mixed research regarding the effect of caffeine consumption on cognition (Herz, 1999; Maia & Mendonça, 2002; Nehlig, 2010; Rees et al., 1999; Ryan et al., 2002). Although the findings in the present study were inconclusive, the increasing consumption of caffeine in the population, combined with the mixed evidence on cognitive effects, provide a strong basis for researchers to continue examining the cognitive effects of caffeine consumption.

References

Arnaud, M. J. (1987). The pharmacology of caffeine. *Progress in Drug Research, 31,* 273-313. doi:10.1007/978-3-0348-9289-6_9

Arnaud, M. J. (1993). Metabolism of caffeine. In Garattini, S. (Ed.), *Caffeine, coffee and health* (pp. 43-95). New York: Raven Press.

Arnaud, M. J., & Welsch, C. (1982). Theophylline and caffeine metabolism in man. In Reitbrock, N., Woodcock, B. G., & Staib, A. H. (Eds.), *Theophylline and other methylxanthines* (pp. 135-148). Zurich: Vieweg.

Arushanian, E. B., & Belozertsev, Y. B. (1978). The effect of amphetamine and caffeine on neuronal activity in the neocortex of the cat. *Neuropharmacology, 17,* 1-6. doi:10.1016/0028-3908(78)90166-1

Barone, J. J., & Roberts, H. R. (1996). Caffeine consumption. *Food and Chemical Toxicology, 34,* 119-129. doi:10.1016/0278-6915(95)00093-3

Blanchard, J., & Sawers, J. A. (1983). The absolute bioavailability of caffeine in man. *European Journal of Clinical Pharmacology, 24,* 93-98. doi:10.1007/BF00613933

Bonati, M., Latini, R., Galetti, F., Young, J. F., Tognoni, G., & Garattini, S. (1982). Caffeine disposition after oral doses. *Clinical Pharmacology and Therapeutics, 32,* 98-106. doi:10.1038/clpt.1982.132

Borota, D., Murray, E., Keceli, G., Chang, A., Watabe, J. M., Ly, M., … Yassa, M. A. (2014). Post-study caffeine administration enhances memory consolidation in humans. *Nature Neuroscience, 17,* 201-203. doi:10.1038/nn.3623

D'Amicis, A., & Viani, R. (1993). The consumption of coffee. In Garattini S. (Ed.), *Caffeine, coffee and health* (pp. 1-16). New York: Raven Press.

Dunwiddie, T. V., Hoffer, B. J., & Fredholm, B. B. (1981). Alkylxanthines elevate hippocampal excitability. *Naunyn-Schmiedeberg's Archives of Pharmacology, 316,* 326-330. doi:10.1007/BF00501365

Eadie, K., & Shum, D. (1995). Assessment of visual memory: A comparison of Chinese characters and geometric figures as stimulus materials. *Journal of Clinical and Experimental Neuropsychology, 17,* 731-739. doi:10.1080/01688639508405163

Fredholm, B. B., Bättig, K., Holmén, J., Nehlig, A., & Zvartau, E. (1999). Actions of caffeine in the brain with special reference to factors that contribute to its widespread use. *Pharmacological Reviews, 51*(1)*,* 83-133. Retrieved from: http://pharmrev.aspetjournals.org/content/51/1/83.l

Gilbert, R. M. (1984). Caffeine consumption. *Progress in Clinical and Biological Research, 158*(1)*,* 185-213. Retrieved from: http://europepmc.org/abstract/MED/6396645

Glade, M. J. (2010). Caffeine – Not just a stimulant. *Nutrition, 26,* 932-938. doi:10.1016/j.nut.2010.08.004

Gold, P. E. (1995). Role of glucose in regulating the brain and cognition. *The American Journal of Clinical Nutrition, 61,* 987 – 999. Retrieved from http://ezproxy.library.usyd.edu.au/login?url=http://search.proquest.com/docview/231938033?accountid=14757

Gray, J. (1998). Caffeine, coffee and health. *Nutrition and Food Science, 6,* 314-319. doi:10.1108/00346659810235215

Herz, R. S. (1999). Caffeine effects on mood and memory. *Behavior, Research and Therapy, 37,* 869-879. doi:10.1016/S0005-7967(98)00190-9

Izquierdo, I. (1974). The hippocampus and learning. *Progress in Neurobiology, 5,* 37-75. doi:10.1016/0301-0082(75)90007-6

Kaptchuk, T. J. (1998). Powerful placebo: the dark side of the randomised control trial. *The Lancet, 351,* 1722-1725. doi:10.1016/S0140-6736(97)10111-8

Kienle, G., & Keine, H. (1996). Placebo effect and placebo concept - a critical methodological and conceptual analysis of information on the extent of the placebo effect. *Research in Complementary Medicine, 3,* 121-128. doi:10.1159/000210214

Lachance, M. P., Marlow, C., & Waddell, W. J. (1993). Autoradiographic disposition of [1-methyl-^{14}C]- and [2-^{14}C] caffeine in mice. *Toxicology Applied Pharmacology, 71,* 237-241. doi: 10.1016/0041-008X(83)90340-X

Landfield, P. W., Tusa, R. J., & McGaugh, J. L. (1974). Effects of post-trial hippocampal stimulation on memory storage and EEG activity. *Behavioral Biology, 8,* 485-505. doi:10.1016/S0091-6773(73)80042-2

Lorist, M. M., & Tops, M. (2003). Caffeine, fatigue and cognition. *Brain and Cognition, 53,* 82-94. doi:10.1016/S0278-2626(03)00206-9

Maia L., & Mendonça, A. D. (2002). Does caffeine intake protect from Alzheimer's disease? *European Journal of Neurology, 9,* 377-382. doi:10.1046/j.1468-1331.2002.00421.x

Mandel, H. G. (2002). Update on caffeine consumption, disposition and action. *Food and Chemical Toxicology, 40,* 1231-1234. doi:10.1016/S0278-6915(02)00093-5

McDonald, C. J., Mazzuca, S. A., & McCabe, G. P. (1983). How much of the placebo 'effect' is really statistical regression? *Statistics in Medicine, 2,* 417-427. doi:10.1002/sim.4780020401

McGaugh, J. L. (2000). Memory – a century of consolidation. *Science, 287,* 248-251. doi:10.1126/science.287.5451.248

McGaugh, J. L., & Dawson, R. G. (1971). Modification of memory storage processes. *Behavioral Science, 16,* 45-63. doi:10.1002/bs.3830160105

Nehlig, A. (1999). Are we dependent upon coffee and caffeine? A review on human and animal data. *Neuroscience & Biobehavioral Reviews, 23,* 563-576. doi:10.1016/S0149-7634(98)00050-5

Nehlig, A. (2010). Is caffeine a cognitive enhancer? *Journal of Alzheimer's Disease, 20,* 85-94. doi:10.3233/JAD-2010-091315

Nehlig, A., Daval, J. L., & Derby, G. (1992). Caffeine and the central nervous system: mechanisms for action, biochemical, metabolic and psychostimulant effects. *Brain Research Reviews, 17,* 139-170. doi:10.1016/0165-0173(92)90012-B

Nehlig, A., Lucignani, G., Kadekaro, M., Porrino, L. J., & Sokoloff, L. (1984). Effects of acute administration of caffeine on local cerebral glucose utilization in the rat. *European Journal of Pharmacology, 101,* 91-100. doi:10.1016/0014-2999(84)900347

Penfield, W., & Pérot, P. (1963). The brain's record of auditory and visual experience: A final summary and discussion. *Brain, 86,* 595-696. doi:10.1093/brain/86.4.595

Phillis, J. W., & Kostopoulos, G. K. (1975). Adenosine as a putative transmitter in the cerebral cortex. Studies with potentiators and antagonists. *Life Sciences, 17,* 1085-1094. doi:10.1016/0024-3205(75)90329-X

Rees, K., Allen, D., & Lader, M. (1999). The influences of age and caffeine on psychomotor and cognitive function. *Psychopharmacology, 145,* 181-188. doi:10.1007/s002130051047

Ryan, L., Hatfield, C., & Hofstetter, M. (2002). Caffeine reduces time-of-day effects on memory performance in older adults. *Psychological Science, 13,* 68-71. doi:10.1111/1467-9280.00412

Scoville, W. B., & Milner, B. (1957). Loss of recent memory after bilateral hippocampal lesions. *Journal of Neurology, Neurosurgery & Psychiatry, 20,* 11-21. doi:10.1136/jnnp.20.1.11

Shum, D. H., Gorman, J. G., & Eadie, K. (1999). Normative data for a new memory test: The Shum Visual Learning Test. *The Clinical Neuropsychologist, 13,* 121-135. doi:10.1076/clin.13.2.121.1967

Smith, A. (2002). Effects of caffeine on human behavior. *Food and Chemical Toxicology, 40,* 1243-1255. doi:10.1016/S0278-6915(02)00096-0

United Nations, Department of Economic and Social Affairs. (2012). *Overall total population – Both Sexes.* Retrieved from http://esa.un.org/wpp/excel-data/population.htm

Risk Management and Counseling Chinese Students and Scholars in United States

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Abstract
Rising mental health issues are recorded across university campuses in the U.S.A. as the Chinese international student population has increased in the past 20 years. These mental health issues include domestic violence, stalking, depression, and suicides (National Institute of Mental Health, 2013). This article discusses mental health issues among Chinese students and scholars in the United States, risk management, and related counseling strategies. The author also discusses the differences between Western and Chinese views on mental health, treatment, and the use of medications. A case study is presented applying culturally-appropriate counseling strategies and skills. Implications for professional practices are discussed.
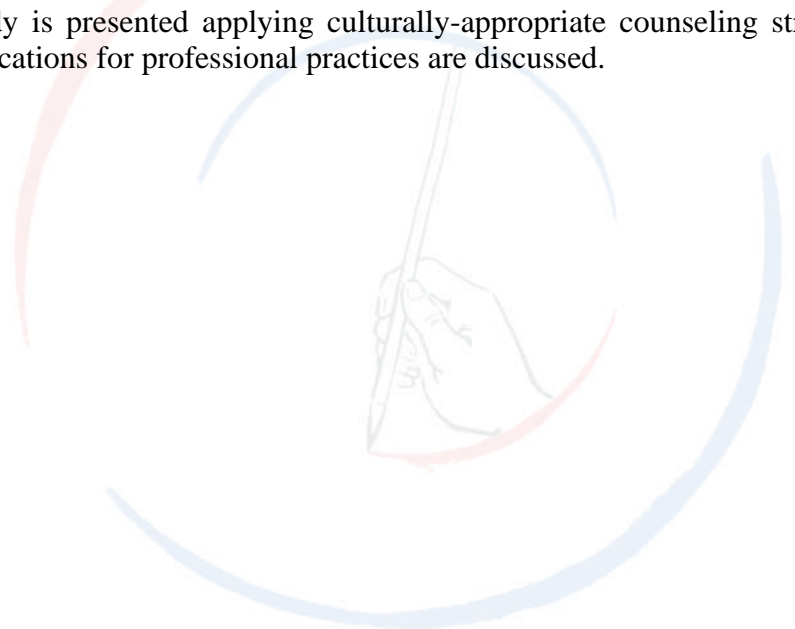
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Risk Management and Counseling Chinese Students and Scholars in United States

The number of Chinese international students has increased rapidly in the past twenty years in United States (Institute of International Education 2014). In the meantime, more mental health issues are being found among the Chinese international students and scholars. The cultural differences between the Chinese and the Western countries are huge. The Chinese people have different views on mental health treatment and disorders. Therefore, in general, Chinese do not admit that they have mental problems, and/or they do not choose to receive treatment. They are reluctant to see mental health professionals. There are a number of possible reasons.

First, Chinese tend to see mental problems/disorders as myths, and to not acknowledge them. Secondly, mental health problems are contained within families, or within a family. Family honor comes first. Individual family members are not supposed to share family matters with people outside of the family. Thirdly, Chinese may perceive mental problems from a physiological perspective. They may go to see their primary physician, and choose not a seek help from a psychiatrist. Finally, part of the problem relates to stigmatism. Chinese may equate mental issues to severe psychotic problems or craziness. Therefore, when a client finally seeks professional help, the case tend to be serious or in an advanced stage of development. In summary, Chinese people may reject mental health services, specifically psychiatry.

Case Formulation

The author proposes adopting the ecological bio-psycho-social approach (Brofenbrenner, 1998) as a foundation for risk management. The model integrates the ecological perspective of the environmental impact on the client as well as an exploration into the client's background in biological, cognitive, psychological, social, and behavioral domains.

Here's an example in Chinese context (Table 1):

Environmental context	Risk Factor	Protective Factors
Client characteristics	Early onset problems Difficulties in childhood	Out-going style communicative
Micro-system	Family: Harsh or punitive discipline Parent's marital problems Family psychopathology Peers: Negative peer influence Negative role models	Family: parent-child relationship/support Peers: Positive peer influence Positive role models
Exo-system	Family cultures – pressure, one-child policy, Suicide perspective, Domestic violence, Work pressure	Family support
Macro-system	Chinese cultures: honor, focused on men, view on mental health, evolving gender equality, abortion	Promote harmony, Close interpersonal relationship; Group culture

Risk management

Risk management is a counseling approach covering services needed for risks or potential risks, roles of provider (including counselors, administrators, campus police), limitations, preventive care, education to mitigate potential risks/emergencies,

and boundaries or professional limitations. Risk management includes clinical assessment, diagnosis, crisis management/intervention, treatment, referral, etc.

The following discussion elaborates on the clinical assessment of common mental problems among Chinese students and scholars as reported on U.S. campuses. The clinical assessment includes domestic violence, depression, suicides, and stalking. The author also discusses the cultural perspective to help mental health professionals understand the background for these issues. Then, the author suggests strategies and ideas for mental health professionals about clinical treatment, crisis management, referral, and prevention.

Domestic Violence and Stalking

The incidence of domestic violence in China was 16.2% in 2012. This higher level represents an increase from 11.6% in 2006 (Hou, Ting, Sze, & Fang, 2011). About 40% of couples fight when they conflict with each other, and the frequency is generally, "Once in a few months." (China Women's Federation Report, 2009). China's crude divorce rate (number of divorces per 1,000 population) increased from 0.33 in 1979 to 1.59 in 2007, and its refined divorce rate (number of divorces per 1,000 married population) increased from 0.85 to 2.62 over the same period (Wang, & Zhou, 2010). Each year, ten million out of 267 million households in China break up due to domestic violence issues. The most common Intimate Partner Violence category includes physical violence, sexual violence, and psychological violence.

Traditional concepts in the Chinese culture, such as 'Beating and scolding is the emblem of love', and 'Do not wash your dirty linen in public', may lead people to acquiesce or tolerate violence. Violence by wives is common in China: 50.8% as perpetrators in Beijing. (Hou e al, 2011). Also, there are no statistically significant differences about physical and psychological violence between husbands and wives (Hou et al, 2011). The amount of domestic violence in Taiwan is not better. Actually, it is worse. According to a recent national survey in 2012 in Taiwan, a total of about 530,000 women reported domestic violence issues. This survey included about 470,000 verbal abuses, about 110,000 physical violence abuses, and over 200,000 mental/psychological abuses. On average, wives experienced 7 incidences of physical violence before initiating a report.

It was found that 60% of the victims had not sought help. Therefore, relatively few domestic violence cases were reported. Thirty percent of verbal abuse incidents became physical violence incidents. Traditionally, extended family is a source of support and guidance. However, a precipitating factor may be the inadequate support from the parents of the husband. In some case reports, the clients reported their parents-in-law ignored their abuse complaints, and the clients were asked to obey their husbands (the initiator of the domestic violence).

In the clinical assessment and diagnosis, the following contributing factors were commonly found among the Chinese people. The list includes a lack of love (54%), personality, relationships with the in-laws, financial issues, children, and other factors including the rejection of complaints by the in-laws, and the blaming of the victims. Violence happens in all families, across SES levels. Characteristics of violent husbands are those who have a history of violence, are involved in drinking/drugs,

and who have experienced great stress in the past two months. (An interview with K. F. Lee, a psychiatrist and Executive Director of Taiwan Domestic Violence Association, August 10, 2012). Other contributing reasons are low adaptability, a low self-concept, a habit of finding excuses, a habit of always showing remorse, and a pattern of presenting gifts after violence.

Mental health professionals should understand the cultural background of domestic violence. Traditionally, China is a male-dominated culture and society. In Mainland China, after the establishment of a community government in1949, women gradually began to see themselves as equal partners in a family or as being equals to men in society. An idiom describes it well: "Women can support half of the sky" (idiom in China).

Traditionally, it is not acceptable to communicate threats in Chinese cultures. However, domestic violence involves family honor and the social acceptance of divorce. Also, domestic violence often involves relationship conflicts, honor, or mental problems. Those are the main reasons why few cases are reported. The support from the family of origin is inadequate or missing, and related professional services are lacking.

In China, stalkers sometimes are tolerated. Clinical assessments reveal that most stalkers are jilted lovers (former boyfriends, divorced husbands, etc.), debt collectors, and criminals. Victims may be pursued by family members or spouses. The stalkers may begin with repeated texts messages with threats or phone calls, later escalating into stalking behaviors if their wishes are not fulfilled. Stalking behaviors may include following the victims, painting threatening words on their doors, and waiting for their victims outside of their workplaces. Today, because of the one-child policy and the preference towards male babies, the result has been a sharp imbalance between genders: 120 mean: 100 women in the young population and (126 boys in rural areas for ages 1-4) (in 2009). Therefore, the imbalance has created challenges for dating in China, particularly so for males because there are fewer women. The imbalance also sets the background for stalking because women are becoming scared, and then they become a target to be chased.

The Chinese government has noticed the problem. Legal authorities revised the Domestic and Cohabitation Relationships Violence Ordinance in 2009 to allow victims of stalking to seek restraining orders against the stalkers from the court. Recently, a revision was passed to criminalize stalking.

In fact, the one-child family policy has also created other social problems such as selective abortion. Abortion is common among Chinese people. The policy includes gender-selective abortion. The average number of children 5.9 dropped to 1.7 in 2009. Buying foreign wives, such as Burmese, was reported, particularly in Southwest China. The consequences of the one-child family policy on relationships is becoming more challenging in Chinese society. The policy also creates conflict relationships in families. Recently the Chinese government has relaxed the one-child family policy in some major cities such as Beijing. This change allows either side of the spouse who is the only-born in their family of origin to have a second child in their own nuclear family.

Depression

Depression is always regarded as a physical problem in the Chinese culture. This diagnosis is included as shenjing shuairuo ("neurasthenia") in the Chinese Classification of Mental Disorders, Second Edition (CCMD-2). Symptoms include physical and mental complaints involving fatigue, dizziness, headaches, other pains, sleep disturbances, and memory loss, etc. Other symptoms include gastrointestinal problems, irritability, and signs suggesting a disturbance or disturbances of the autonomic nervous system. These symptoms are similar to mood/anxiety disorders such as depression in the Western countries.

When making a diagnosis, mental health professionals are reminded to note cultural aspects and perception. Clients may deny having any mental problems. Instead, they want to be treated for their physical symptoms such as headaches, a lack of energy, having difficulty concentrating, etc. Extra time may be needed to explain the related causes which include an opportunity for psycho-education. The author has found it particularly helpful and clarifying to clients to explain a diagnosis to them using the metaphor of a computer to represent different tasks of our brains. The computer hardware serves as the brain functioning or chemical balance. The thinking, reasoning, and feeling components are the tasks of the computer software.

In terms of treatment plans, Chinese clients may reject the use of western medications. Professionals need to explain to their clients the causes of the "illness," and the necessity of using Western medications. It is also important to describe and explain the possible side effects of the Western medications to their clients. Chinese clients show a tendency to decrease the dosage levels or to stop taking medications on their own.

Comorbidity is common among depression clients. They may also have problems in other areas such as personality disorders, PTSD, etc. It is important for the professionals to pay attention to these situations.

To increase the effectiveness of a treatment plan, the author has adopted the group culture in Chinese. It would be helpful for the mental health professionals to spend time meeting with the individual who accompanies the client to the first interview. Securing the consent from the client, the professional explains the client's problem to the accompanying individual. Possibly, this person may become an ally or serve as a coach. As such, this person could provide an important supporting role in the counseling process. Periodically spending some time of the sessions to update and discuss the on-going counseling process with this person would be useful for the therapeutic outcomes.

Support of family or friends is important in treating depression among Chinese students. The family or friends function as coaches and allies. They help the client to move into a better living routine. Their assistance could include help with providing a balanced diet, encouraging the use of a good exercise program, assisting with social activities, and providing help with work issues.

Suicides

Like other people, Chinese see suicide as a last ditch resort, also a solution. Therefore, hopelessness, helplessness, and high incubation are common. Clinical assessments also show that Chinese clients may use suicide as a controlling strategy in relationship problems. Sometimes, suicidal cases may relate to stalking. A stalker may use suicide as a means to try to mend or regain a broken relationship.

In committing suicides, Chinese may use insecticides or drugs more than other means because they are cheap and easily accessible in urban and rural areas. More women than men have committed suicides in China. Another contributing element is honor. Some suicide cases of Chinese students reveal that honor is a major contributor. Honor, in Chinese culture, is family first. The individual is only second or last. Traditionally, academics are a key to success which carry high honor to families. Today, an achievement mindset is common among Chinese students.

The pressure to achieve in academics is huge among Chinese. It is particularly so for international Chinese students who carry high expectations from their family, and who spend a great deal of money and resources on their studies here. The two quotes below from a suicide case may reflect the views of other students who also have committed suicide.

"It is believed that there exists no justice for little people in this world, extraordinary action has to be taken to preserve this world as a better place to live, "Lu Gang (a doctoral student who committed suicides after killing a few people) wrote in a short statement before he went for the murder spree (The Daily Iowan, 11/01/2001). This case reflects the restrictions of thinking of a student who committed suicide: "Both professors were writing very strong letters of recommendation for Lu. Somehow he couldn't see that," said Professor Payne. (The Daily Iowan, 11/01/2001). Gang was very competitive against his Chinese peer who was awarded a fellowship at the time of graduation. Then, he went to kill a few of his professors and students. Finally, Gang committed suicide.

In higher education in China, involuntary commitment is uncommon. Suicide prevention is uncommon in China. Some individual school districts have begun to develop preventive programs.

Differences in Mental Health Concept, Diagnosis and Treatment

Major differences exist between Eastern and Western mental health philosophies. In the Eastern philosophy, Chinese adopt traditional medical approaches which focus on the balance of different parts of the body. The Chinese traditional medical approach also applies herbal medications and acupuncture for treatment. Recently, a few new herbal medications were developed for depression and anxiety in the universities in China. Chinese may reject Western medications because of different philosophies about health and healing. Western medications which include particularly psychiatric types are rather new. Many Chinese also have concerns about the side effects of Western medications.

However, a few strengths of the Chinese culture are also noted. Chinese believe in nature and promote harmony. They enjoy peace and like to be un-disturbed. Chinese tend to be defensive in conflicts rather than aggressive. Chinese focus on relationships. They have strong group/family support. Chinese also maintain high moral and social expectations.

Diagnosis.

In making a diagnosis, counseling professionals are reminded about the cultural formation guidelines (DSM-V; Sue, 2004):

1. Cultural identity of the individual
2. Cultural explanations of the individual's illness
3. Cultural factors related to psychosocial environment and levels of functioning (e.g. international students here)
4. Cultural elements of the relationship between the individual and the clinician
5. Overall cultural assessment for diagnosis care

Often times, the author found that lacking cultural knowledge/understanding could lead to a missed diagnosis or misdiagnosis. Culture and expressions of psychotherapy affect thought and feelings which are manifested as maladaptative cognitions and emotional distress. Culture-bound syndromes are common and can be misdiagnosed. Also, the author noted that the professionals need to pay attention to recurrent, locality-specific patterns of aberrant behavior. They are considered a subset of folk illness, and they may not fit into contemporary Western diagnostic and classification systems such as DSM (Sue, 2004), e.g. depression. Shen-k'uei (Taiwan); shenkui (China) is a common physical complaint in the Chinese society. Symptoms include marked anxiety or panic symptoms with accompanying somatic complaints for which no physical cause can be demonstrated. Other symptoms include dizziness, backache, fatigability, general weakness, insomnia, frequent dreams, frequent urination, and complaints of sexual dysfunction.

Qi-going psychotic reaction is a term describing an acute, time-limited episode characterized by dissociative, paranoid, other psychotic or nonpsychotic symptoms. It occurs after participation in the Chinese folk health-enhancing practice of qi-gong ("exercise of vital energy"). This diagnosis is included in the Chinese Classification of Mental Disorders, Second edition (CCMD-2).

Expectations of Counseling.

Chinese prefer structured, time-limited, and short/brief therapies. They prefer receiving advice and instruction rather than deciding on their own. Therefore, counselors should offer them options rather than simply asking, "What do you want?" Since the family and parental influences are huge, counselors should learn about such influences, and they should be cautious about addressing these issues in the counseling process. Many of the Chinese student problems are relationship issues. The list often includes roommate conflicts, loneliness, interpersonal conflicts, and marital problems. It would be more effective for counselors to also use "relationship" perspective to provide alternatives and treatments. Peers and family members are always good allies for Chinese students who have psychological distresses.

Career problems are seen by Chinese as a topic they feel more comfortable for discussion with counselors.

The following is a list of suggested counseling strategies for mental health professionals:

1. Establish credibility and initial formality
2. Use restraint when gathering information
3. Allow indirect contextual communication and low emotional expressiveness
4. Clarify misconceptions, etc.
5. Recognize that they honor face and face saving
6. May start from their initiated specific problems
7. Take an active and directive role, provide more detailed and specific instructions
8. Always be aware of the cultural differences
9. Work with family and secure their support
10. Mentoring/support of peers
11. Community involvement: Offer outreach programs/services in the Chinese communities.

Other strategies include being vigilant about the complexity of their backgrounds and problems, assessment by considering their challenges in language, culture, environment, etc. and, the use of some interpreters as needed.

A Case Study

The author discussed a case below. The client Ming Lee (not a real name), male about 25, was found to have schizophrenic problems off of the campus. He was a graduate student receiving a fellowship from a public university in a suburban city. After he started the program and had been pursuing the program for two months, he learned that his mid-tem grades were not acceptable. Later on, he worried that he would lose the fellowship. When that problem occurred, he was found restless, highly agitated, walking up and down in a room, and complaining people trying to kill him.

Table 2: Case Study

Environmental Context	Risk Factor	Protective Factors
Client characteristics	Onset problems: schizophrenic symptoms with depressed mood (delusions, paranoia, hearing voices, conflicted thinking, lack of emotions) Academic focused, Self-demanding, Adjustment issues; English ability	Intelligent No family history
Microsystem	High expectations (parents) peer pressure Academic status: scholarship Lacking faculty support	Supportive parents Friends at church Mental health supporting system, a safe community
Exosystem	One-child policy, International status (little resources)	Involuntary commitment Crisis assessment center Local psychiatric hospital
Macrosystem	Chinese cultures: success and honor, family first, focused on men, view on mental health	Promote harmony, Close interpersonal relationship; Group culture

The author implemented crisis intervention. First, the author observed the client, the situation in the room, and made certain that the client was safe. He found that the client was not carrying any weapons, and that the client was not engaged in any actions that might harm himself or others. Quickly, he asked the other people to leave the room to reduce the pressure on the client. This decision by the author is very important in the Chinese culture. The reduction of complications in the case, keeping

confidentiality for the client, and the reduction of the chance of gossip among other people on scene is very important. If this client had been a woman, the author may have asked a female counselor to help, an entirely appropriate decision in this situation in the Chinese culture. Then, the author quickly tried to make a connection with the client by pacing with the client while talking with him. The author listened to the client's complaints with empathy. Gradually, the author slowed down the pace and calmed the client. Also, he was learning more about the client's problems. At that point, the author's quick assessment was that it was a crisis case. The student needed immediate psychiatric assessment and treatment. The author decided to implement involuntary commitment, and he escorted the client for emergency psychiatric assessment at a local hospital. The client was hospitalized for two weeks. Subsequently, the client was diagnosed with schizophrenia.

Later, working with on-campus counselors, the author provided further support for this client. The further support included providing case information to the Student Conduct Office, contacting the client's parents in China, and offering support to the client when he was released from the hospital. The client's parents immediately flew from China to the campus in the U.S. to support their son. After some additional brief treatment in the U.S., the client returned to his home country for further treatment.

References

Hou, J., Yu, L., Ting, S. R., Sze, Y. T., & Fang, X. (2011). The status and characteristics of couple violence in China. *Journal of Family Violence, 26,* 81-92.

Huang, J, (2009). *Women Seek Safe, Healthy and High Quality Life—General Report on Chinese Women's State of Life (2008—2009).* All-China Women's Federation.

Institute of International Education (2014). *Open doors*. Retrieved from http://www.iie.org/Who-We-Are/News-and-Events/Press-Center/Press-Releases/2014/2014-11-17-Open-Doors-Data.

National Institute of Mental Health (2013). *The number counts: Mental disorders in America*. Retrieved from http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index .shtml#RegierServiceSystem.

Sue, D. (2004). Physical and mental health of Asian Americans. In Atkinson, D. R. (2004). *Counseling American minorities, Ch. 11*, pp. 240-256. (6th ed.) New York: McGraw-Hill.

The Daily Iowan, Nov 1, 2001.

Wang, Q., & Zhou, Q. (2010). *China's divorce and remarriage rate*. Retrieved from: http://www.uvm.edu/~rsingle/JournalClub/papers/Wang+Zhou-2010-JDivorceAndRemarriage.pdf.

Should People from Different Groups Be Confused about the Distinction between Constructs, Is There Still Room for Structured Means?

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Abstract

Aim of this study is to encourage the using of structured means modelling as a measurement error-free method, and culturally invariant approach (i.e., measurement invariance at strong level), for evaluating between-group differences in latent means and controlling for the inclusion of latent covariates. Although this technique is not novel in academic literature, applications to quantitative psychology are still uncommon. To compensate this gap an application of latent means and latent ANCOVA, latent covariates models is proposed to the Schwartz's taxonomy of basic human values theory. Data were collected in June 2011 on a regional basis and age categories and analyzed by means of structural equation modelling for a representative sample of roughly 3,000 Italian food consumers.

Empirical applications of the Schwartz's elliptical taxonomy often leads to the overlapping of its adjacent domains both at whole sample and at group level. Hence, someone may come to bias conclusions that no between-group differences exist in those overlapped domains. This study confirms that there is still room for between-group differences at latent mean level. Standardized effect sizes of structured means differences were estimated for all the ten motivational value domains of the Schwartz's taxonomy across the main four Italian macro-regions. Self-direction, stimulation, power and achievement factors were successively regressed on hedonism latent covariate, with using latent ANCOVA models, due to the ambivalent nature of hedonism domain that the Schwartz's theory stipulates to share (strongly overlaps) elements of both openness to change (i.e., self-direction and stimulation) and self-enhancement (i.e., power and achievement).

Keywords: Schwartz theory of human values, structural equation modelling, latent means models, latent ANCOVA models, hedonism, openness to change, self-enhancement.

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Introduction

The present study focuses on promoting structured means modelling (SMM; Sörbom, 1974) and latent ANCOVA, latent covariate models (Hancock, 2004) for evaluating between-group differences in construct means across different populations and testing for structured mean differences above and beyond a latent covariate influence. Even though SMM has been discussed and applied for more than two decades (Aiken, Stein & Bentler, 1994; Cole, Arvey & Salas, 1993; Gallo, Anthony & Múthen, 1994; Green & Thompson, 2003; Hancock, 1997; Thompson & Green, 2006) research applications are still pretty uncommon.

SMM is a type of structural equation model that is able to compare means at latent level (i.e., factors means) controlling for variations and shared variations (i.e., factor variances and covariances) among latent variables across groups, simultaneously. As a result, this approach immediately appears to be more sound than the one based on traditional methods of between-subjects (multivariate) analysis of variance, such as (M)ANOVA (Hancock, 1997), whenever a researcher has to deal with latent constructs (i.e., latent factors). This latter statement is basically accurate for the following two reasons: a) traditional methods require assessment of the homogeneity of variances (and covariances for longitudinal studies) in order to make group means comparisons meaningfully defensible, whereas SMM does not since all variances and covariances of each latent are simultaneously estimated and thus controlled for; b) a researcher who deals with latent means he/she is handles error-free means because measurement errors are still modelled for each involved latent.

The only restriction required for the application of SMM is the assessment of measurement equivalence across groups at level of metric and scalar invariance (i.e., strong factorial invariance). The reason of this assumption is straightforward and due to mathematical identification problems (see next subsection about methodological details), supported by strong theoretical foundations. As a matter of fact, in order to meaningfully compare latent means across different populations it is theoretically necessary that: 1) each latent factor has to have the same meaning across those populations early on (i.e., metric invariance, that is factor loadings need to be equal across groups); 2) different cultural forces across those populations have to be controlled for early on (i.e., scalar invariance, that is intercept terms have to be equal across groups since they represent those cultural forces unrelated to the factor, but possibly existing in the observed measures when compared across groups). If these two latter assumptions are not met, differences in latent means will not solely due to the true value means, but to differences in the subset of observed variables that are possibly loading different factors and reflecting cultural biases of the measurement instrument applied across groups of comparison (Brown, 2006; Gregorich, 2006; Hancock, 1997; Thompson & Green, 2006).

In sum, the rationale behind SMM is to compare factor means controlling for factor sources of covariation across the populations of interest under the assumption of strong factorial invariance (i.e., cross-cultural validity of the measurement instrument), simultaneously and thus having a culturally unbiased analytic framework to accommodate latent means comparison. Furthermore, SMM preserves the true nature, measurement error-free, of each latent variable and so does the estimated structured means. To this end, it is possible to examine true value differences in latent

means through the standardized effects. Such true differences cannot be found out in the underlying measured variables means as these latter are affected by measurement errors which, acting like a confound, would lead to differences that are potentially dampened in their magnitude. Furthermore, differences in latent means are particularly useful in presence of severe correlation between latent factors across populations. Substantial correlations do not permit a clear understanding of the relations between factors and they can also mask structural differences in the factors themselves across different populations with leading to unbiased conclusions. Differences that may exist at factor mean level, nevertheless. SMM is able to detect these differences above and beyond severe estimated factor correlations.

In this respect, the present study proposes an application of SMM, with its extension of latent ANCOVA, to the Schwartz taxonomy of basic human values (Schwartz, 1992) across the main four geographical macro-regions of the Italian territory: Northwest, Northeast, Central, South and Insular (hereafter South). This partition is conventionally used in the official annual statistics reports for describing social, demographic and economic differences in Italy (Italian National Institute of Statistics – ISTAT 2012a, b).

Structured means models – methodological details

In order to understand how SMM works it is important to start with looking at figure 1 in which a hypothetical common factor ξ is loaded by three indicators x_1, x_2, x_3, where λ_s represent the factor loadings, τ_s the intercepts, δ_s the measurement errors, $\theta_{\delta s}$ the measurement error variances, ϕ the factor variance (for the time being the reader forgets about that pseudo-variable 1 denoted as a triangle).

Figure 1 - Latent mean path diagram with using JKW notation (Joreskog, 1973; Keesling, 1972; Wiley, 1973).
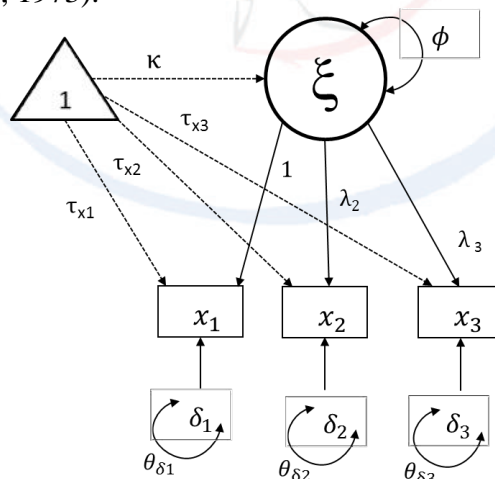
The structural equations related to that common factor ξ can be written with the following well-known regression system of structural equations (with i=1, 3; λ_1=1, for scaling the construct)

$$x_i = \lambda_i \xi + \delta_i \qquad (1)$$

Since SEM operates with data deviated from the observed means, the intercept terms in the system (1) is omitted. Nevertheless, in the case a researcher wants to explore

the construct ξ mean he/she is obliged to include the observed means in the system (1) and so that the intercept terms allowing for nonzero means both for factors and measures (Thompson & Green, 2006). As a matter of fact, recalling from simple linear regression expression with the intercept term:

$$y = a + bx + \varepsilon \qquad (2)$$

the expectation of y yields to $E(y) = a + bE(x)$ and the intercept "a" can be re-written as $a = E(y) - bE(x)$. Hence, it is clear how the mean vector of the observed variables needs to be considered along with the observed variances and covariance's. In this latter respect, the intercepts must be introduced into the structural equation system (1) that operates just as in simple regression (2) where x is ξ and y is x :

$$x_i = 1\tau_i + \lambda_i \xi + \delta_i$$
$$E(x_i) = \tau_i + \lambda_i E(\xi) \qquad (3)$$

Now, backing to figure 1, it is easy to understand how the system (3) is visualized. The predictor variable depicted as a triangle barely defines a pseudo-variable with no variance which is equal to 1 for all the individuals because it represents the coefficient 1 of all intercept terms included the intercept κ of the factor ξ. The intercept κ is also the factor mean:

$$\xi = 1\kappa + \phi$$
$$E(\xi) = 1\kappa \qquad (4)$$

Merging the system (3) with (4):

$$x_i = 1\tau_i + \lambda_i \xi + \delta_i$$
$$E(x_i) = \tau_i + \lambda_i \kappa \qquad (5)$$

The system (5) represents the structured means modeling equations even though it results under-identified as the number of free parameters overcomes the number of the observations[1]. As a consequence, it seems that there are no way to estimate κ. However, since the rationale of SMM is to compare latent means across populations that are strong invariant as regards each involved latent, and not to estimate the latent means themselves, the first step to cope with this identification problem is to fix the construct mean of interest within one group to zero. By doing so, the population with the construct mean at zero is the reference group[2] and the other construct means in the remaining groups are freely estimated and compared to the reference one. Therefore, these estimated latent means represent deviations, average differences, from the reference group latent mean. In this respect, it will be straightforward to verify which group has significantly got, on average, more (if the average difference is significantly positive) or less (if the average difference is significantly negative) of the construct

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[1] The number of observations is the number of observed variances and covariances (i.e., $(v(v+1))/2$; with v the number of observed variables) and the observed mean vector. Hence, the number of observations in the system (5) is nine (i.e., 3 variances, 3 covariances, 3 means) whilst the number of free parameters is ten.

[2] The way how to select the reference group is arbitrary and depends on the researcher strategy in choosing that reference group as much as it addresses the research question.

under evaluation; or, possibly, in which group it has not resulted significantly different from zero. In figure 2 is then depicted the SMM for the factor ξ across m groups with the first group set as the reference group with fixing at zero the construct mean $^1\kappa$. It is noteworthy that both all factor loadings and intercepts have been constrained to be equal across the m groups in respect of the strong measurement equivalence assumptions (i.e., $= {}^j\lambda_i$; $= {}^j\tau_{xi}$; i=1, 3; j=1, m). As a result, the entire model in figure 2 is identified[3]. Nevertheless, strong measurement equivalence can be achieved also at partial[4] level. If it is so, only just those items resulted invariant will be considered for computing latent means differences.

Figure 2.- Multi-group latent means comparison path diagram.
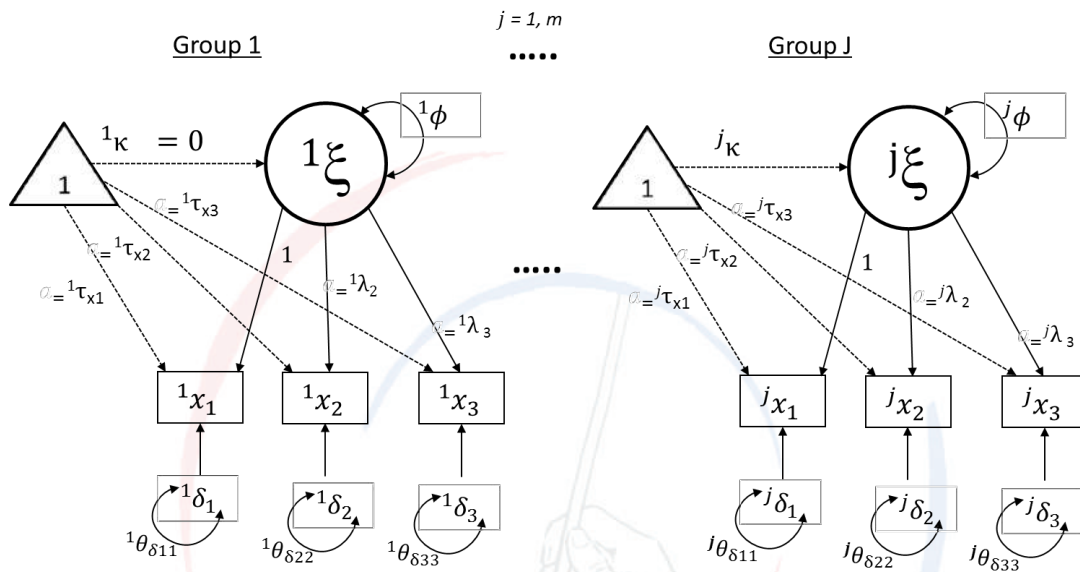
Hancock (2001) computed the estimated standardized effect size $\hat{d}$ of the structured means difference with the following formulas:

$$\hat{d} = \frac{|{}^1\kappa - {}^j\kappa|}{\sqrt{\hat{\phi}}} = \frac{|{}^j\kappa|}{\sqrt{\hat{\phi}}} \qquad (6)$$

$$\hat{\phi} = \frac{\sum_{j=1}^{m} n_j \left(\hat{\phi}_j\right)}{\sum_{j=1}^{m} n_j} \qquad (7)$$

Where $|{}^j\kappa|$ is the estimated latent means difference between each j group and the reference one, $\hat{\phi}$ is the pooled variance estimate of ξ, n_j and $\hat{\phi}_j$ are respectively the sample size and the estimated variance of ξ in each j group. The interpretation of $\hat{d}$ is straightforward: how many standard deviations each j group are higher/lower than the reference one on that latent factor of interest.

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[3] Please refer to the works of Hancock's (1997) and Thompson and Green's (2006) for further algebraic details.
[4] To achieve partial metric and scalar invariance the literature respectively stipulates that at least one factor loading (in addition to the one fixed at unity to define the scale of each latent construct) and one intercept per latent variable must be metrically invariant (be equal) (Byrne, Shavelson & Muthén, 1989; Steenkamp & Baumgartner, 1998).

Extension of SMM is latent ANCOVA model depicted in figure 3 in which the factors of interest are regressed on a measured or latent covariate (the model can be also extended with more than one measured and/or latent covariate) that presumably acts like confounding variable. By doing so, the path from the covariate to the factors of interest reveals how much of within-group factor variance is explained by between-group factor variance and therefore possibly new differences may exist in mean factors above and beyond (i.e., conditioned on) the effect of the covariate. This path from the covariate to the factors has to be constrained to be equal across groups (i.e., $= {}^{j}\gamma$; j=1, m; parallelism test[5]) in order to grant that new estimations of latent means differences are due to an equal external effect (i.e., covariate effect). Otherwise, that covariate will not be controlled for.

Figure 3.- Multi-group latent ANCOVA, latent covariate path diagram.
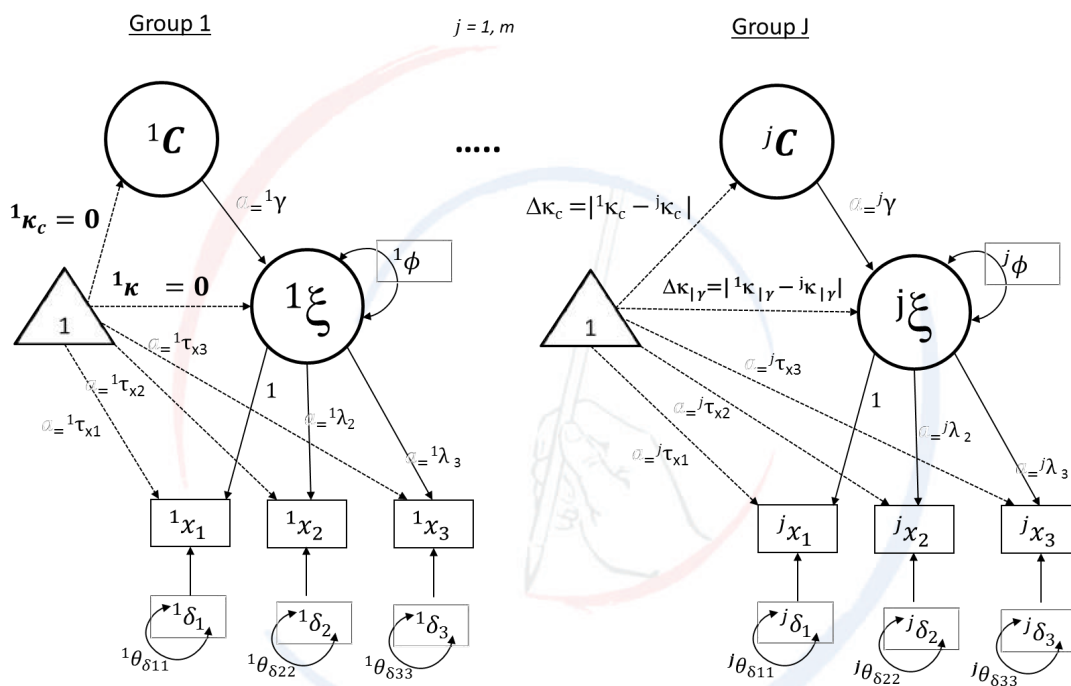
Schwartz theory of basic human values and hypotheses

SMM will be applied to the well-known Schwartz's taxonomy of basic human values (Schwartz, 1992). Briefly speaking, this theory identifies a purportedly comprehensive set of ten different types of cross-cultural values (termed value domains) that all together form an integrated circular structure of motivational constructs: benevolence, universalism, tradition, conformity, security, power, achievement, hedonism, stimulation, self-direction (see figure 4).

Figure 4. Schwartz's taxonomy of motivational value domains adapted from Schwartz (1992).

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[5] Latent covariate variance and factor error variances (error covariances with more than one factor involved in the latent ANCOVA) are free to vary.
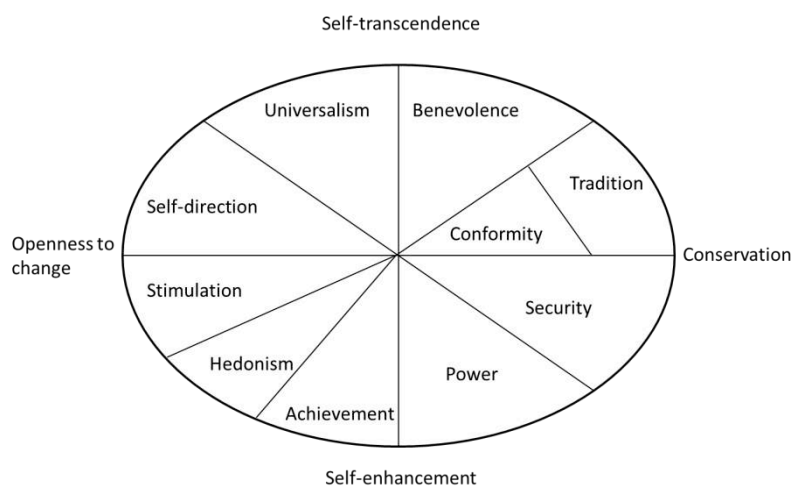
Nevertheless, the circular taxonomy depicted above has been adapted alike an ellipse rather than a perfect circle. The reason is due to the fact that the structure does not constitute a perfect circle, or a circumplex (term used and defined by Guttman in 1954), where variables (here latent variables) are equally spaced, but it has, in truly, unequally spaced variables. So that, it represents a quasi-circumplex taxonomy since the ten value domains, that are latent in nature, are also supposed to vary reflecting their degree of similarity, dissimilarity (or conflict) in their underlying motivations around that quasi-circular continuum (Schwartz, 1992, 1994).

The more the value domains are adjacent the more they are positively correlated and therefore similar in their underlying motivations; conversely, the more the value domains are distant, or even at the opposite side, the more they are negatively correlated and therefore dissimilar (or conflicting) in their underlying motivations. This operationalizing easily permits to visualize the quasi-circular continuum of the motivational value types that takes the form of a sinusoidal trajectory around the hypothesized circle when it occurs. Studies assessed this lacking of perfect circularity (Perrinjaquet, Furrer, Usunier et al. 2007; Schwartz & Boehnke, 2004) due to multi-collinearity problems with a consequent possibly overlapping between adjacent domains (Schwartz et al., 2012) even though the substantial level of correlation can be controlled for with hypothesizing high-order dimensions of the human value domains (Krystallis, Vassallo, Chryssohoidis, & Perrea, 2008; Krystallis, Vassallo, Chryssohoidis, 2012; Schwartz & Boehnke, 2004). However, this quasi-circular continuum is, in turn, organized by two orthogonal high-order dimensions that bring together the integrated structure of the ten domains as follows (see figure 4): the vertical dimension of self-transcendence and self-enhancement respectively opposes values of universalism and benevolence (which emphasize attention for the welfare and interests of others) to values of power and achievement (which emphasize the detection of self-interests). On the horizontal axis, the dimensions of openness-to-change and conservation opposes values of self-direction and stimulation (which emphasize self-regulating actions and willingness for new experience) to the values of tradition, conformity and security (which emphasize self-restriction, directive and opposition to change). Hedonism shares elements of both openness-to-change and self-enhancement (Schwartz, Sagiv & Boehnke, 2000; Schwartz et al., 2001).

Hypotheses of this study were twofold: 1) to compute latent means differences across the main four macro-regions of Italian territory for all domains of Schwartz's taxonomy with highlighting latent means differences related to highest correlated domains; 2) to

compute latent means differences for power, achievement, stimulation and self-direction domains controlling for hedonism (i.e., latent ANCOVA model with hedonism as latent covariate).

Methods and data analysis

Data were collected in June 2011 from a professional agency (PRAGMA – market research company) using a three-step quota-based sampling method. In the first step, the sample quota was designed to be representative on regional basis and age categories using data from the census performed in 2001 by the Italian National Institute of Statistics (i.e., ISTAT). Then, in the second step, national sampling points were partially randomized since they included the biggest 45 municipalities in Italy in respect of the regional stratification. Finally, in the third step, within each sampling point, a random sample of households (addresses) was visited by interviewers (applying random-walk procedures) selecting only one member of the family if over 18 years of age and solely, or jointly, responsible for the family's food expenditure.

A structured self-administered questionnaire was handed out to each selected respondent. Subsequently, subjects were contacted by phone to arrange an appointment for handing in the completed questionnaire. The final sample was comprised of 3,004 consumers with a mean age of 48 years where more than half the participants were females (i.e., 60% females, 40% males), 45% with high school educational level, 31% with primary education completed, 14% with university degree (1.4% with postgraduate degree), 9% with no formal or less than primary education, and 0.3% were missing. The complete questionnaire originally included three sections. The third section was of interest in this study aimed at assessing the human value domains according to the Schwartz (1992) theory of basic human value with using the validated Italian version of the 40-item Portrait Value Questionnaire (PVQ; Capanna, Vecchione & Schwartz, 2005). PVQ included short verbal portraits/descriptions/items on the importance of each value type: 6-item for universalism; 5-item for security; 4-item for tradition, conformity, benevolence, self-direction and achievement; and 3-item for stimulation, hedonism and power.

An example of description was: "Thinking up new ideas and being creative is important to him. He likes to do things in his own original way" describes a person to whom self-direction value is important. The question: "How much like you is this person?" elicited the importance to each description. Measurement scales with 6-anchor "not like me at all, not like me, a little like me, somewhat like me, like me, very much like me", and corresponding codes from 1 to 6, provided verbal and numerical quantification. The entire PVQ questionnaire can be requested from the author.

The strength of relationships between value domains were analyzed using Structural Equation Modeling (SEM) with Maximum Likelihood (ML) method of estimation. In all SEM analyses, cases with missing data were deleted using list-wise deletion in order to have complete records and so that measures as much consistent as possible with the constructs. The effective sample sizes for SEM analyses were respectively of 2,797 (Italy), 754 (Northwest Italy), 532 (Northeast Italy), 563 (Central Italy), 948 (South Italy).

Confirmatory Factor Analyses (CFAs) by country and macro-regions were performed on the 10-value factor structure of Schwartz's taxonomy to achieve convergent and discriminant validity among constructs (Kline, 2011) and then to validate the measurement model (Anderson & Gerbing, 1988). All CFAs were performed by arbitrarily setting one indicator to unity, for each different latent variable, in order to define the scale of the factor (Kline, 2011). Additionally, as suggested by Schermelleh-Engel, Moosbruger and Müller (2003) and Jöreskog and Sörbom (2002), a standardized residual analysis was conducted for all models adding paths between those error covariances where the correspondent standardized residuals were high (much more than $\pm$ 1.96 with $p<.05$; or $\pm$ 2.58 with $p<.01$) and the relative modification index very large (much more than $\pm$ 3.84 with $p<.05$; or $\pm$ 6.63 with $p<.01$). Nevertheless, these modifications were made with taking into account theoretical reasons (Schermelleh-Engel et al., 2003).

Multi sample structural equation modelling-based confirmatory factor analyses (MS-SEM-based CFA) were performed to check for cross-cultural validity across the four geographical macro-regions which included groups of regions according to the geographical repartition of Italy used by ISTAT. Structured means differences were evaluated by standardized estimations so as to quantify the effect size strength of the differences themselves (Hancock, 2001).

The statistical packages utilized for performing the analyses were SPSS v20.0 and LISREL v8.80 (Jöreskog & Sörbom, 2007).

Results and discussion

Preliminary results on descriptive statistics, reliability analysis and measurement models assessment were found satisfactory. However, these results were not reported here in order to preserve space, but they can be requested from the author.

The estimated zero-order correlations among the ten value domains showed different scores (see table 1) and many of them around the cut-off of .85 that it is still evidence for distinctiveness of the factors (i.e., discriminant validity; Kline, 2011). As expected, some estimated correlations were found greater than .85 for those domains that are more adjacently located in the taxonomy (i.e., conformity and tradition, conformity and security, power and achievement, hedonism and stimulation; see table 1). This result indicated that although CFAs fitted well in terms of goodness of fit indices, substantial correlations among these domains still persisted for all the four macro-regions and Italy, confirming the quasi-circumplex elliptical trajectory of Schwartz's taxonomy of motivational value domains.

Table 1.- Estimated correlations of ten value domains by macro-regions and Italy.

		North West	North East	Central	South	Italy
Universalism	↔ Benevolence	.85	.81	.81	.84	.83
Universalism	↔ Conformity	.78	.73	.68	.83	.78
Universalism	↔ Tradition	.60	.56	.39	.63	.57
Universalism	↔ Security	.76	.66	.67	.83	.76
Universalism	↔ Power	-.10	-.19	-.18	-.23	-.16
Universalism	↔ Achievement	.18	.12	.00	.05	.08
Universalism	↔ Hedonism	.16	.19	.15	.09	.13
Universalism	↔ Stimulation	.16	.32	.14	.13	.17
Universalism	↔ Self-direction	.72	.76	.70	.60	.68
Benevolence	↔ Conformity	.81	.68	.71	.81	.78
Benevolence	↔ Tradition	.61	.61	.55	.69	.63
Benevolence	↔ Security	.63	.61	.58	.71	.66
Benevolence	↔ Power	.07	-.06	.01	-.15	-.04
Benevolence	↔ Achievement	.24	.24	.21	.13	.20
Benevolence	↔ Hedonism	.27	.27	.32	.18	.25
Benevolence	↔ Stimulation	.24	.34	.27	.25	.27
Benevolence	↔ Self-direction	.75	.64	.71	.58	.67
Conformity	↔ Tradition	.89	.92	.80	.87	.88
Conformity	↔ Security	.89	.89	.83	.88	.90
Conformity	↔ Power	.13	-.06	.08	-.03	.02
Conformity	↔ Achievement	.24	.19	.21	.17	.20
Conformity	↔ Hedonism	.24	.22	.16	.15	.19
Conformity	↔ Stimulation	.07	.22	.09	.15	.13

Conformity	↔	Self-direction	.58	.51	.46	.51	.52
Tradition	↔	Security	.72	.92	.68	.74	.78
Tradition	↔	Power	-.04	-.03	.11	-.03	.01
Tradition	↔	Achievement	.05	.15	.07	.08	.09
Tradition	↔	Hedonism	.03	.16	.05	.08	.07
Tradition	↔	Stimulation	-.09	.08	-.07	.06	.01
Tradition	↔	Self-direction	.25	.29	.11	.30	.25
Security	↔	Power	.28	.05	.14	.06	.14
Security	↔	Achievement	.40	.26	.21	.28	.29
Security	↔	Hedonism	.27	.24	.25	.19	.23
Security	↔	Stimulation	.18	.16	.22	.21	.20
Security	↔	Self-direction	.65	.55	.52	.61	.60
Power	↔	Achievement	.96	.81	.95	.90	.93
Power	↔	Hedonism	.65	.47	.78	.68	.65
Power	↔	Stimulation	.61	.59	.85	.72	.70
Power	↔	Self-direction	.52	.28	.50	.43	.43
Achievement	↔	Hedonism	.73	.75	.81	.82	.78
Achievement	↔	Stimulation	.78	.81	.88	.88	.84
Achievement	↔	Self-direction	.69	.57	.60	.66	.62
Hedonism	↔	Stimulation	.90	.91	.91	1	.94
Hedonism	↔	Self-direction	.66	.63	.70	.66	.66
Stimulation	↔	Self-direction	.74	.88	.83	.78	.80

The goodness of fit indices of the configural invariance was satisfactory, suggesting that the PVQ survey instrument measures the same underlying constructs across all macro-regions (see table 2).

Table 2.- Summary of multi-sample CFA models fit statistics for assessing measurement invariance at level of configural, metric and scalar.

	Configural Invariance	Full Metric Invariance	Full Scalar Invariance
NT Chi-Square	9489.86	9679.29	9964.05
df	2756	2846	2936
NT-Chi-Square (difference)	Δ (**C. M**) = 189.43 (significant at level of .001) Chi-Sq (90; .001) = 137		Δ (**M. S**) = 284.76 (significant at level of .001) Chi-Sq (90; .001) = 137
SRMR	.059	.061	.061
RMSEA	.059	.059	.059
CFI	.96	.96	.96
TLI - NNFI	.95	.95	.95

A full metric invariance (all factor loadings constrained to be equal across the geographical macro-regions) was then performed. The global goodness of fit indices[6] of the full metric models were compared with those of the configural and subsequently with those of scalar invariance (see table 2). Full metric invariance and full scalar invariance was supported, even though Chi-square slightly increased (the Chi-square difference test was significant), but RMSEA, CFI and NNFI stayed the same. Thus, the solutions could be meaningfully compared across the four macro-regions and so could the structured means.

In the following tables 3 and 4 were respectively reported the estimated standardized effect size of structured means differences of each ten motivational domains by macro-region with the South as the reference group, and how the structured means differences of power, achievement, stimulation and self-direction changed when they regressed on hedonism. The South macro-region was selected as the reference group because, historically, this geographical macro-region has always been poorer than the rest of the peninsula, as well as it possessed age-old culture and different traditions from the other parts of Italy (De Rosa, 1993; Mutti, 2000). Besides, the backwardness of Italy's Southern regions has been, and still is, a crucial problem in Italian society identifying geologically differentiated development policies (Barbagallo, 1980).

Table 3.- Estimated standardized effect size of structured means differences with South as the reference group (*not significant at the 95% confidence level).

		South	Central	Northwest	Northeast
Self-transcendence	Universalism	.00	-.26	-.29	-.11*
	Benevolence	.00	-.15	-.13	-.11*
Conservation	Conformism	.00	-.33	-.20	-.23
	Tradition	.00	-.46	-.39	-.42
	Security	.00	-.36	-.31	-.23
Self-enhancement	Power	.00	-.06*	.03*	-.30

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[6] The chi-square difference test is usually applied to compare nested models. However, the limitations of this latter index are well-known (violation of multi-normality assumptions, model complexity, sample size etc.; Schermelleh-Engel et al., 2003). Consequently, other fit indices, were used both as an alternative method and further support to the model comparison test as recommended by Steenkamp and Baumgartner (1998) and Vandenberg and Lance (2000).

	Achievement	.00	-.12	-.12	-.30
Hedonism	Hedonism	.00	.15	.04*	.07*
Openness to change	Stimulation	.00	.01*	-.11*	-.14
	Self-direction	.00	-.11*	-.05*	.05*

Table 4.- Estimated standardized effect size of structured means differences with South as the reference group and Hedonism as latent covariate (*not significant at the 95% confidence level).

		South	Central	Northwest	Northeast	Hedonism *Parallelism γ*
Self-enhancement	Power	.00	-.17	.00*	-.34	.71
	Achievement	.00	-.25	-.15	-.36	.82
Openness to change	Stimulation	.00	-.15	-.13	-.21	.70
	Self-direction	.00	-.20	-.08*	.03*	.95

Specifically, the numbers reported in the tables provided the following information: a) whether, or not, there were significant structured means differences in the ten motivational value domains between each group and the South; b) the sign and the strength in terms of standard deviation units (i.e., standardized effect size) of these differences.

So then, starting from table 3, it was impressive to observe that the Central, Northwest and Northeast Italy were characterized by highest negative differences, on average, in conservation dimension (especially in tradition) in comparison to the South Italy.

The latent means for the Central, Northwest and Northeast ranged, on average, from -.20 to -.46 standard deviation units lower than those of the South Italy on conservation dimension. In this respect, differences in the average amount of tradition, conformity and security concepts existed across macro-regions also in presence of severe estimated correlations between these domains (see table 1). So thus, someone could have easily, but inaccurately, concluded that consumers from the South did not make distinction between those concepts as well as consumers form the Central and North of Italy, but indeed differences in latent means still occurred (see table 3).

A similar negative trend was also found both in self-enhancement and self-transcendence dimensions, with the exception of power for the Central and Northwest, universalism and benevolence for the Northeast, respectively. These latter three domains, together with almost all the entire openness to change dimension, presented small differences, on average, across macro-regions. However, a slight counterpart to this negative trend was found in hedonism domain for the Central Italy with a positive difference in comparison to the South. Looking back again at the estimated correlations (table 1) regarding power and achievement domains they were found all very high across macro-regions, so then it seemed that, yet again, Italian consumers, independently from the part of the country they come from, did not make

distinction between these two concepts. But, indeed, differences in latent means on these two concepts strongly existed especially for achievement construct.

Concerning hedonism domain it was noteworthy, from table 1, that it was found higher related to stimulation than to achievement. As a consequence, hedonism construct belonged to openness to change dimension rather than to self-enhancement for all Italian consumers. Nevertheless, with regressing power, achievement, stimulation, self-direction on hedonism across macro-regions (see table 4 about Latent ANCOVA results) it was impressive how much change was found in these latent means controlling for the effect of hedonism; especially for the Central Italy: an equal control for hedonism across macro-regions (i.e., standardized path from hedonism to stimulation was found equal to .70 across groups; table 4) caused a decreasing in stimulation mean difference with the South of -.15 standard deviation units and a severe decreasing in self-direction, power and achievement means difference of .-20, -.17, -.25 standard deviation units, respectively.

All this practically means that since consumers from the Central Italy were, on average, more hedonistic than those of the South (i.e., positive value of .15 in hedonism mean difference between the South and Central; see table 3) they would be, on average, less stimulated, self-directed and power-oriented than Southern consumers if their hedonism was controlled for (i.e., hedonism not satisfied). As a consequence, Central Italian consumers were, on average, only just less achievement-oriented than the Southern ones (i.e., -.12 from table 3), but with no significant differences in power, stimulation and self-direction means because of their hedonism. This type of latent ANCOVA simulations can be tested also for all those domains of Schwartz's taxonomy that can be theoretically hypothesized as external covariates and therefore finding out further insightful implications.

Wrap-up

This study confirmed the importance of using structured means modeling, with the extension of latent ANCOVA models, when the object of the study is to compare means at latent level across different populations and especially in presence of high correlations between constructs. The application of this method is meaningfully robust both in terms of measurement equivalence (that can hold also at partial level) and homogeneity of factor variances/covariances that are simultaneously estimated across groups of comparison. Since the measurement equivalence is achieved at level of strong invariance (i.e., metric and scalar invariance), potential cultural forces across groups are controlled for and so that differences in construct means are obtained with no cultural bias. Particularly in this study, the application of this type of strategies to the Schwartz's taxonomy of human values across the most important Italian macro-regions effectively allowed to depict an average picture of Italian consumers as regards they inner motivational value domains, above and beyond their different regional cultures and the risk of overlapping of adjacent domains, providing insightful sociological matters for future perspectives.

Limitations

Usually, one limitation of the application of structured means modeling is the expected requirement of large sample size. By the way, with less than 100 cases

almost any type of SEM will result untenable due to low statistical power and unacceptable inferential properties as regards the Maximum Likelihood method of estimation, unless very simple models are considered (Kline, 2011). In the case of this study the PVQ 40-item questionnaire was summarized by a 10-factor model that it is not such a complex model, since it has not any causal paths. Nevertheless, in the unfortunate case a researcher is not able to deal with large samples he/she is bound to apply multiple indicators-multiple causes (i.e., MIMIC) models (Jöreskog & Goldberger, 1975) in order to make means comparisons at latent level and so that he/she is bound to renounce for invariance testing of the measurement models as in MIMIC models all sources of covariation among observed variables are assumed to be equal across groups with no formal test. Moreover, MIMIC models tend to control the Type I error rate when dealing with approximately equal generalized variances and/or equal sample sizes across groups, but not with both sample size and generalized variance disparities (Hancock, Lawrence & Nevitt, 2000) as structured means models are able to do.

Acknowledgements

References

Aiken, L.S., Stein, J.A., & Bentler, P.M. (1994). Structural equation analyses of clinical subpopulation differences and comparative treatment outcomes: Characterizing the daily lives of drug addicts. *Journal of Consulting and Clinical Psychology*, 62,488-499.

Anderson, J.C., & Gerbing, D.W. (1988). Structural Equation Modeling in practice: A review and recommended two-step approach. *Psychologial bulletin*, 103(3), 411-423.

Barbagallo, F. (1980). *Mezzogiorno e Questione Meridionale*. Napoli: Guida Editori.

Brown, T.A. (2006). *Confirmatory factor analysis for applied research*. NY: The Guilford Press.

Byrne, B.M., Shavelson, R.J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin*, 105(3), 456-466.

Capanna, C., Vecchione, M., & Schwartz, S. (2005). The measurement of values. A contribution to the validation of the Portrait Value Questionnaire on an Italian Sample. *Bollettino di Psicologia Applicata*, 246, 29-41.

Cole, D.A., Maxwell, S.E., Arvey, R., & Salas, E. (1993). Multivariate group comparisons of variable systems: MANOVA and structural equation modeling. *Psychological Bulletin*, 114, 174–184.

De Rosa, L. (1993). *Lo Sviluppo Economico dell'Italia dal Dopoguerra ad Oggi*. Roma: Laterza Edizioni.

Gallo, J.J., Anthony, J.C., & Muthén, B. (1994). Age differences in the symptoms of depression: A latent trait analysis. *Journal of Gerontology: Psychological Sciences*, 49, 251-264.

Green, S.B., & Thompson, M.S. (2003). Structural equation modeling in clinical research. In M.C. Roberts & S.S. Illardi (Eds.), *Methods of research in clinical psychology: a handbook*. London: Blackwell.

Gregorich, S.E. (2006). Do self-report instruments allow meaningful comparisons across diverse population groups? Testing measurement invariance using the confirmatory factor analysis framework. *Medical Care*, 44, 11(3), S78-94.

Guttman, L.A. (1954). A new approach to factor analysis: the radex. In P.F. Lazarsfel (Ed.), *Mathematical thinking in the social sciences* (pp. 258–348). Glencoe, IL: The Free Press.

Hancock, G.R. (1997). Structural equation modeling methods of hypothesis testing of latent variable means. *Measurement and Evaluation in Counseling and Development*, 30, 91-105.

Hancock, G.R. (2001). Effect size, power, and sample size determination for structured means modeling and MIMIC approaches to between-groups hypothesis testing of means on a single latent construct. *Psychometrika*, 66, 373-388.

Hancock, G. R. (2004). Experimental, quasi-experimental, and non-experimental design and analysis with latent variables. In D. Kaplan (Ed.), The SAGE handbook of quantitative methodology for the social sciences (pp. 317–334). Thousand Oaks, CA: Sage.

Hancock, G.R., Lawrence, F.R., & Nevitt, J. (2000). Type I error and power of latent mean methods and MANOVA in factorially invariant and noninvariant latent variable systems. *Structural Equation Modeling: A Multidisciplinary Journal*, 7, 534-556.

ISTAT. (2012a). *Rapporto annuale 2012 – La situazione del Paese*. Istituto nazionale di statistica. Roma ISBN 978-88-458-1719-9.

ISTAT. (2012b). *Annuario Statistico Italiano 2012*. Istituto nazionale di statistica. Roma ISBN 978-88-458-1731-1.

Jöreskog, K.G. (1973). A general method for estimating a linear structural equation system. In A.S. Goldberger and O.D. Duncan (Eds.), *Structural Equation Models in the Social Sciences* (pp. 85-112). NY: Academic Press.

Jöreskog, K.G, & Goldberger, A.S. (1975). Estimation of a model with multiple indicators and multiple causes of a single latent variable. *Journal of the American Statistical Association*, 70, 631-639.

Jöreskog, K., & Sörbom, D. (2002). *LISREL 8: Structural equation modeling with the simplis command language*. Fifth Printing. Lincolnwood, IL: Scientific Software International Inc.

Jöreskog, K., & Sörbom, D. (2007). *LISREL 8.80 for Windows*. Chicago, IL: Scientific Software International Inc.

Keesling, J.W. (1972). *Maximum Likelihood approaches to causal analysis*. Ph.D. dissertation. Department of Education: University of Chicago.

Kline, B.R. (2011). *Principles and practice of structural equation modeling*. (Third Edition). NY: The Guilford Press.

Krystallis, A., Vassallo, M., Chryssohoidis, G. (2012). The Usefulness of the 'Values Theory' in Understanding Consumer Behaviour towards Differentiated Products. J*ournal of Marketing Management*, 28(11-12), 1438-1463.

Krystallis, A., Vassallo, M., Chryssohoidis, G., & Perrea, A. (2008). Societal and individualistic drivers as predictors of organic purchasing revealed through a portrait value questionnaire (PVQ)-based inventory. *Journal of Consumer Behaviour*, 7, 164-187.

Mutti, A. (2000). Particularism and the Modernization Process in Southern Italy. *International Sociology*, 15(4), 579-590.

Perrinjaquet, A., Furrer, O., Usunier, J-C., Cestre, G., & Valette-Florence, P. (2007). A test of the quasi-circumplex structure of human values. *Journal of Research in Personality*, 41, 820-840.

Schermelleh-Engel, K., Moosbruger, H., Müller, H. (2003). Evaluating the Fit of Structural Equation Models: Tests of Significance and Descriptive-of-Fit Measures. *Methods of Psychological Research Online*, 8, 2, 23-74.

Schwartz, S.H. (1992). Universals in the content and structure of values: Theoretical advance and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1-65.

Schwartz, S.H. (1994). Are there universal aspects in the content and structure of values? *Journal of Social Issues*, 50, 19-45.

Schwartz, S.H., & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality*, 38, 230–255.

Schwartz, S.H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., & Lönnqvist, J-R., Demirutku, K., & Dirilen-Gumus, O., Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, 103, (4), 663-688.

Schwartz, S.H., Melech, G., Lehmanna, A., Burgess, S., Harris, M., Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology*, 32(5), 519-542.

Schwartz, S.H., Sagiv, L., & Boehnke, K. (2000). Worries and values. *Journal of Personality*, 68, 309-346.

Sörbom, D. (1974). A general method for studying differences in factor means and factor structure between groups. *British Journal of Mathematical and Statistical Psychology*, 27, 229–239.

Steenkamp, Jan-Benedict E. M., & Baumgartener, H. (1998). Assessing Measurement Invariance in Cross-National Consumer Research. *Journal of Consumer Research*, 25, 78-90.
Thompson, M.S., & Green, S.B. (2006). Between-group differences in latent variable means. In G. R. Hancock & R. O. Mueller (Eds.), *Structural Equation Modeling: A Second Course* (pp. 119-169). Greenwich, CT: Information Age Publishing.

Vandenberg, R.J., & Lance, C.E. (2000). A review and synthesis of the measurement invariance literature: suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3 (1), 4-69.

Wiley, D.E. (1973). The identification problem for structural equation models with unmeasured variables. In A.S. Goldberger and O.D. Duncan (Eds.), *Structural Equation Models in the Social Sciences* (pp. 69-83). NY: Academic Press.

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Living within a Broken Vow: The Impact of Parental Infidelity Among Late Adolescents in Establishing Romantic Relationships

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Abstract

The present study aimed to know the possible impact of parental infidelity among late adolescents in establishing romantic relationships with significant other. It employed a qualitative research and used the approach on social constructivism in which it described the adolescents' experiences about parental infidelity as numerous and subjective as they interact with the social world. A survey was conducted in identifying twelve (12) participants, ages 15 to 19, who experienced parental infidelity from University of the East-Manila enrolled in academic year 2014-2015. One (1) hour in-depth interviews were recorded and guided by the researchers' validated aide memoir. All recorded interactions with the participants were transcribed into field text. The participants' responses were carefully analyzed through Thematic Analysis and Collaizi's procedure. The researchers found that the impact of parental infidelity among late adolescents in establishing relationships is a process and is best depicted through a cross, or The C.R.O.S.S. in Infidelity, with five conceptual themes which also signify the process that late adolescents usually go through after discovering their parents' infidel behavior. The themes conceptualized were: reaction; circumspection; self- recognition; stagnation; and overturn. The C.R.O.S.S In Infidelity may serve as an aid in counseling as well as in creating an intervention program to help these late adolescents cope with the experiences of parental infidelity

Keywords: parental infidelity, late adolescents, establishing relationships

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Introduction

The family is the basic unit of the society. It is where individuals first develop their personalities, as well as build their relationships among family members, especially with their parents. The children initially interact with their parents from which the latter provider examples of desired behaviors that are ought to be learned by the former (Hermes, 2013). The parents are considered as the influential models of the child (McLeod, 2011). They teach the child values on how to face the reality of life and to develop their own behaviors.

By the time an individual reaches late adolescence, he forms relationships with other people. During this period, he becomes more mature. The earlier experiences during the preceding stages of development allowed individuals to gain insights and realizations about the ups and downs of life. When they reach the late adolescent period, they are seen as individuals being emotionally mature. According to Erikson (1963, as cited by Feist & Feist, 2009), late adolescence is the developmental stage when individuals begin to form deeper relationships with their significant others. Likewise, late adolescence is the stage where individuals begin to form intimate and romantic relationships with other people as they enter adulthood.

Parental infidelity is one of the crucial social issues, among with others relating to marriage. It may be one of the primary reasons why parental relationships lead to divorce (Reid, 2014). Having parental infidelity threatens the foundation of the marriage as well as the whole family relationship. It affects the relationship of the child to couples not only emotionally but physically, mentally and socially which may also influence the establishment of the former's relationships. It is a problem which has consequences that permanently damage the parent-child relationship as well as other future relationships. Considering the parent-child relationship as the most important, parental infidelity may be a precursor to the individual's relationships toward his or her own family, and building romantic relationships with others. This familial and social issue can have a big impact on individuals themselves. They may perceive their own family as a failure. As a result, they may have a hard time in decision-making and understanding things surrounding their developing environment, especially within their familial environment.

Parental infidelity may be considered as one of the most controversial social phenomena, seen as one among the major causes of marital instability which often leads to divorce, desertion, single-parenthood and generally failed marriages (Ngozi, Peter & Stella, 2013). It may be a critical part for the self-development of individuals.

Children who come to know the parental infidelity issues of their parents can have deeper, greater, and longer-lasting impacts (Davis, 2011). The present study aimed to know and describe the possible impacts of parental infidelity on the establishment of romantic relationships of individuals whose parents committed the said issue. This study delved on their lived experiences and how they see their present and future lives with these experiences.

Research Design

Social constructivism was utilized in qualitative research. According to Creswell (2013), social constructivism assumes that individuals find meaning and understanding of the world they interact with (Creswell, 2013). The meaning and understanding of the world created by the individuals are subjective. They create varied and multiple meanings to subjective experiences. Social constructivist approach aims to rely as much as possible on the views of the participants in the situations they are in. The subjective meanings of the participants are formed through their interactions with others and through the historical and cultural norms that guide their lives. Crotty (1998, as cited by Creswell, 2008) identified three assumptions in the social constructivism: individuals create meanings as they involve in the world they interpret, making the researchers to use open-ended questions allowing the participants to share their own views; human beings get involve and make sense of the world historically and socially, making the researchers seek to understand the context or setting of the participants and interpret what they discover based on the interpretation formed by the researcher's own experiences; and lastly, meanings are basically generated socially, that is with the interaction with the human community. Induction is used in qualitative research where the researchers generate meanings from the collected data from the field.

Study site and Subjects

The participants of the study were late adolescents with ages ranging from 15 to 19 years, studying in the University of the East – Manila during the academic year 2014 to 2015. There were twelve (12) participants who experienced parental infidelity regardless of the time of its discovery. The profile of the participant included the present romantic relationship status of the individual and his or her parents' marital status.

Procedure

An aide memoir was the main instrument used to gather the data for this study. An aide memoir contains questions which served as a comprehensive guide about topic issues or areas that were covered during the interview (Zhang & Wildemuth, 2009). It consisted of questions concerned about the experiences of individualregarding parental infidelity, its impact to their family relations and in the establishment of romantic relationships.

A survey form was utilized to identify the prospective participants who participated in the study. Permission was sought from the dean of the College of Arts and Sciences of the University of the East-Manila through a letter of request. Upon approval, participants whose one or both parents committed infidelity were selected through the use of a survey form. When the participants confirmed their willingness to participate in the study, consent forms which are the protection of privacy and confidentiality of information provided by the participants were given to ensure ethical considerations. Also, their availability for the in-depth interviews was considered. The decision of the participants who chose to withdraw at any time during the study was respected.

All in-depth interview sessions lasted for approximately 1 hour per session, guided by the researchers' aide memoir to complete the main purpose of the study. Primarily, the objectives of the study and its possible outcome were explained. The validated aide memoir used for the interview consisted of open-ended questions that helped the participants provide information and insights which allowed them to define parental infidelity, based on their own perspectives and experiences. All interviews and interactions with the participants of the study were recorded. All of the verbalizations were transcribed into field text by the researchers. The researchers used bracketing to identify and limit the researchers' bias about the study. Bracketing is a method that sets aside one's assumptions or expectations about the phenomenon (Husserl, 1913 as cited by De Guzman, 2010). The researchers' saw to it that their own beliefs, knowledge, values and experiences about the parental infidelity will be put aside to accurately describe and interpret the participants' own life experiences.

Mode of Analysis

The responses of the participants reflected through the field text were carefully analyzed through thematic analysis wherein different themes included in the participant's responses as well as its similarities were identified. The themes reflected the impact of parental infidelity among late adolescents in establishing their own romantic relationship. According to Namey et al. (2008), thematic analysis can provide veracity and complexity and improve the meaning of the responses. It can also make it easier to understand the experience of the participants widely.

The researchers used cool analysis in distinguishing significant statements to come up with data categories, and warm analysis to determine the essence of the phenomenon (Barthes, R., 1996). It was used to reveal the whole meaning of the experience of the participants based on the data gathered.

As part of the thematic analysis, the Collaizi's Procedure was used to have a deeper analysis of the field text. This procedure began with reading and re-reading of the interview transcriptions. Second, extraction of significant statements was done. Third was the formulation of meaning for the significant statements. Fourth, the formulated meanings were categorized into themes. Fifth, the findings were integrated into an exhaustive description. Sixth was the validation of the findings. Lastly, the incorporation of any changes of the subjects of the investigation (Collaizi, 1978 cited in Wojnar & Swanson, 2007).

Findings and Discussion

The utilization of the cool, warm and the thematic analyses revealed nineteen (19) categories that were lumped into five (5) interesting conceptual themes that describe the impact and meaning of parental infidelity to late adolescents' establishment of romantic relationship which emerged from their lived experiences regarding parental infidelity. The five conceptual themes that were generated are as follows: reaction, circumspection, self-recognition, stagnation, and overturn. Reaction is any action has a corresponding reaction; hence, knowing that one parent committed infidelity may make an individual respond through various

means. In this model, the first theme: Reaction, refers to the thought constructed, feeling experienced or action performed (towards the infidel or cheated parent) in response to the experience of parental infidelity. The participants' initial response was to feel anger and resentment towards their infidel parent. The consequence in this type of situations was withdrawal from the infidel parent. They were also greatly affected knowing that their father committed infidelity that their studies, faith and interpersonal relationship were disturbed.

Additional inputs from participants were stated as: From the response of EM," I was really affected, for almost one year I did not entertain my father. I told him that I don't want him to be my father anymore and then when he was hospitalized, I did not visit him, I was really angry at him at that time. I told him that it was his fault that I wasn't able to make it to the top of the class. And then about Jason and then I became suicidal before and I also lost my faith in God." Added by NG, "When I first knew about it, I was irritated with my father because why does he even have to do that? What is the problem? What is wrong? When your wife, your mother is taking care of the house, your children cannot maintain anymore… why do you even have to do that, look for another? The reason why you married each other is because when you're old and you do not look the same anymore, the love should still be there. Why did you marry her if you'll look for another? That's the question that irritates me but I told myself to forgive because he is still my daddy. Although he has done something wrong, he already thought us many lessons about life.

Aside from anger and resentment, the statements expressed the feelings of disappointment and doubt toward the infidel parent. Some participants showed disappointed because either parent committed infidelity. They couldn't believe that either parent was capable of committing such act. The participants started to have different perceptions about relationships, and love.

In connection with the first theme, which is reaction, the next thing that can possibly happen to individual is to have doubts and fears in establishing their own relationship due to their experience in their parent's infidelity; thus, circumspection may develop. The model proposed that the second possible theme may be *circumspection*. Circumspection refers to the act of thinking carefully about the possible circumstances and consequences before doing or saying something. It is usually the state of being wary or doubtful in taking risk in relationships due to the knowledge of parent's infidelity. With much conviction RT stated"... they're all jerks, I am generalizing that they're all the same. The reason why I have this generalization is because they're not proving that they are different." Added by RT,"I have this feeling that the relationship will just end and there will come a time that he will do the same as what my father did."

These statements demonstrated how the participants generalized that all men are the same, that they all tend to cheat their partner. Based on the experience, one participant expressed that he found difficulty trusting every guy and hesitated committing to a relationship. Due to the infidelity act of one of his parents, he formed a negative impression towards all men and that men cannot redeem themselves. He already assumed that an awful event, like infidelity, is going to happen in his own romantic relationship. Thus, the participant feared that the experiences he had with his parents will happen with his own relationship as well.

Experiencing parental infidelity is an unplanned and unwanted event that no children wanted to go through. It may be traumatic to some, while inspiring to others. At some point in an individual life, acknowledging such unlikely experience might lead to self-recognition of own capabilities or incapabilities to do something regarding the experience. The third theme which is shown on intersection of the horizontal and vertical line, is the self-recognition. This study defined self-recognition as the ability to acknowledge one's feelings, emotions, thoughts and behaviors before, during and after the event of infidelity. The verbalizations showed that even though the participants went through a painful experience, they were able to have a positive regard with the experiences they encountered and did not retaliate to show disapproval with their parent's infidel act. JB stated,"...I'm proud of myself, on what I did, on what happened to my family, because I stay as is that wasn't that super rebel." Added by RT,"...if I want to have a relationship or not, it's up to me."

The participants expressed that they still have capability to choose whether or not to commit to a relationship, regardless of their experience. The recognition of the participants that they still have the power to make their own decisions on what to do with their lives is important because this means that they do not want to stick in a stage wherein they will just continue generalizing and hating their parents. After being able to recognize oneself, an individual has to come up with a decision to either stay in a miserable and hating state or think of other ways to adjust with the situation and to be able to cope with it. The next theme shown in the other end of the vertical line is *stagnation*. It is the act of dwelling on the situation and resisting changes thus demonstrating apathy and passivity towards any circumstances after experiencing parental infidelity. Sometimes, the experience was so excruciating that the individual ignores the thought of infidelity. Additional verbalization, AC said, "regarding my father, it's kinda okay already, I just don't want to see him"; Followed by,"I feel like i don't want o have a relationship."

The verbalizations demonstrated the participant's resistance to settle the issue with their parent's infidelity. Due to the infidelity of one of their parents, there were still factors that hindered them to forgive their parents and a disinterest to fix their relationship with one another.

The positive effect of experiencing events such as parental infidelity is at the end, which an individual can learn from. The best way to improve yourself is to use these experiences as a lesson to do better than what your parents did. The final theme shown on The C.R.O.S.S. in Infidelity is *overturn*. Humans are capable of moving on and learning from their experience. Overturn is the act of utilizing the experience regarding parental infidelity as a guide towards betterment of one's disposition. It refers to the process wherein the experience is evaluated in accordance to what is morally right and taken positively as a guide for future behavior (i.e. establishing relationship). But if the experience is only seen from its negative viewpoint, it will only stay on the level of stagnation. The field text showed that Overturn can be associated with insights and realizations that the participants learned from their experiences. This statement showed that the participants created a set of expectation for one's future relationship which could guide his future romantic relationship behavior.

Addtional inputs statements stated as: NG explained, "If you really love the person, any changes that will happen to him/her will not lessen your love towards them, even if they change, even if they are not as beautiful as before" Added by NG, "never let your problems get through on your relationship with others and your dreams"

The participants perceived their experiences as challenges and inspiration. It was a challenge because going through parental infidelity was hard and complicated. It was an inspiration for him and for others as well because his experiences in parental infidelity made him a stronger person. This particular participant was able to make decisions and judgment by himself. Moreover, the individual used this particular event to aim for a better life of his own.

The study considered the fourth and fifth themes as the turning point wherein the participant either dwelled on and endured the situation or realized and positively perceived the experience and redirected one's situation.

Conclusion

This study aimed to know the impact of parental infidelity to late adolescents in establishing romantic relationship. To be able to come up with the impact/s of parental infidelity, questions pertaining to their experience were asked. The participant provided answers which included his: feelings and thoughts regarding parental infidelity, the actions performed and emotions expressed after discovering his parent's infidel behavior, and plans in the future regarding his own relationship. All of the participants experienced parental infidelity and admitted that at one point in their life, they felt angry and blamed the parent(s) for the conflict.
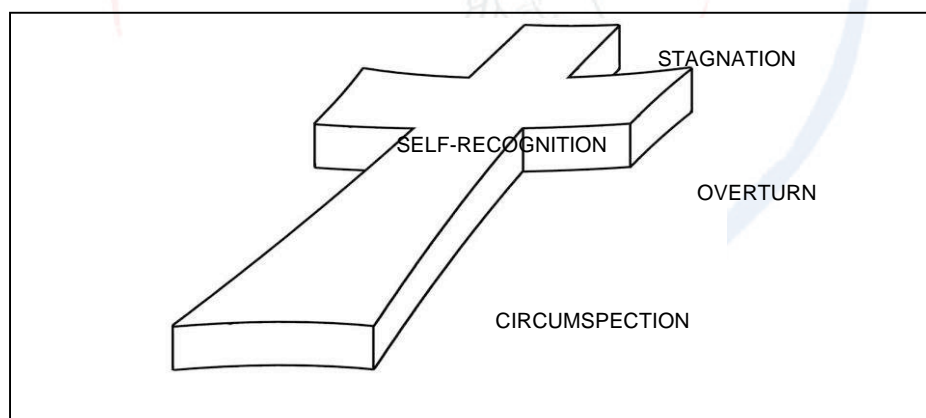
Figure 1. The C.R.O.S.S. in Infidelity

Interestingly the study came up with a cross which the researchers called as "The C.R.O.S.S. in Infidelity". Universally, the cross is considered as the greatest representation of God's love for mankind. For Christians, it symbolizes: the suffering God has gone through to save mankind from sin, as well as the hope of redemption. For some Filipinos, a cross may represent as a burden that each and everyone has to carry. However, it may denote a hope that one day, the suffering that we went through will pay off. Along the way, people carrying a heavy cross may give up while others may take the challenge of carrying it and utilizing it as a means to a better self and a better life. Just like the cross carried by

God, all problems, struggles and obstacles are heavy to carry but along the way these are all blessings in disguise. All these challenges and opportunities will make one stronger and wiser.

In relation to the study, the cross was used as a representation of an experience of parental infidelity that every child has to carry. It is a fortuitous event that no child desired to experience and has no control of. The child has to go through his journey towards Calvary while carrying "the cross of infidelity", which is a means to a better future and a better disposition if one decided to carry it through and use it for good. The field text, was thematized, and lumped into five (5) categories namely reaction, circumspection, recognition, stagnation and overturn. These categories can be illustrated in The C.R.O.S.S. in Infidelity, which reflects the impact of parental infidelity to children who experienced infidelity.

Based on the study, reaction is the response (thought, feeling or action) expressed towards the infidel or cheated parent after discovering the parent's infidel behavior. The usual reactions expressed by the participants were anger, hatred, resentment, disappointment, hurt and empathy. This theme corresponded to the case study conducted by Malate (2010) which stated that adolescent children lost their respect, their affection changed, and their communication became conflicting towards their authoritarian father after discovering the latter's infidel act. Children also hold grudges toward their infidel father, thereby putting barriers and increasing the gap or distance between their relationships.

The second theme is circumspection, which is usually referred to as the state of being wary or doubtful in taking risk in relationships due to to the knowledge of infidelity of parents. This theme is supported by the study of Amato (2005, as cited by Osarenren, Nwaginigwe and Anyama, 2013) which stated that adolescents who are aware of the failure of their parents' marriage have negative concept about marriage. Adolescents who are from broken families experience fear and/or anxiety and have difficulty engaging in relationships.

The third theme is self-recognition which refers to the acknowledgement of one's thoughts, feelings and emotions about oneself as well as one's experience which will be used in deciding which direction to take. This theme corresponded with the study of Cui, Fincham and Durtschi (2010) which indicated that parental conflict (i.e. divorce) does not have direct effect in young adult's romantic relationships. It will still depend on the individual's own perception about how he/she will use the experience in his/her own life. Parental infidelity may have a positive and negative effect but the final decision still depend on them whether they will take the experience as a challenge or an inspiration in facing their life.

The fourth theme is stagnation wherein the participant showed resistance, apathy and passivity on what is going around him despite the fact that he's aware that there is something wrong within the family. One study by Thorson (2009) supported this theme. The findings showed that individuals protect the information about their parents' infidelity. Individuals secure the information about the event within the family to maintain harmony and still feel that they are part of the cultural norms and to protect the family from outside scrutiny or judgment by other people.

The last theme found is overturn which refers to the utilization of the experience regarding parental infidelity as a guide towards betterment of one's disposition and in facing life. This also refers to the plans of the participants about their lives and how they are going to be a partner in their future relationships and a parent on their own. Most participants utilize their experience as a model for future behavior and remarked that individuals are the one who are responsible for their actions and reactions. This theme corresponded with the study conducted by Spence (2009) stating that parental i did not seem to contribute in higher risk taking behavior. Likewise, the absence of the relationship may be due to the fact that children can see the damaging effects that infidelity (a risky behavior in itself) can have, and choose not to engage in behaviors that may have similar consequences.

The impact of parental infidelity among late adolescents in establishing relationships is a process. The first process was the initial reaction of the individual towards the event and then, a formation of circumspection. This was followed by the recognition of the state of the individual before, during and after the event. From there the creation of negative and positive ideation may occur. The negative impact is stagnation wherein the individual tolerates, accepts and endures the experiences he has gone, he is going, and will go through while the positive impact is overturn wherein the individual think of ways on how to avoid incidents like parental infidelity.

Implications and Future Research

The results of the study affirm the principles of social cognitive theory which states that real-life experiences and exposure may be a guide in shaping an individual's behavior. In relation to the study, the presence of parental infidelity in the family may affect the thinking process and decision making skills of the child. It is important for parents to be good models because it influences the development of personality, behaviors and traits of their children.

Given the findings above, the guidance counselors could act as second parents and would have additional insights about the issues of parental infidelity in guiding the adolescents coping with the said phenomenon through counseling. The guidance counselors may also create several guidance and counseling programs that are more effective in helping adolescents cope with parental infidelity. These programs may be focused on the Rational Emotive Behavior Therapy (REBT) of Albert Ellis. REBT therapists believe that human beings are fallible, having the potential for rational and irrational thinking.

They develop a way of understanding the world through his or her obedience to a unique philosophy, a concept known as philosophical conditioning. A person has his/her own philosophies that lead to rational or irrational thinking. Rational thinking leads a person to healthy ways of living, resulting to unconditional acceptance of self, of other people, and of the things around. Unconditional acceptance teaches persons how to accept themselves and not to depend on others in developing their self-esteem and a more effective belief system. Irrational thinking leads a person to develop emotional distress, dysfunctional behaviors, and neurotic ways of living. REBT believes that it is the individual who develops his or her unique way of thinking. REBT is an insight-oriented approach that allows person

to choose new ways of thinking and act in healthier ways. REBT can also be considered a constructivist approach where a person can reconstruct his or her own meaning-making system. In relation to the present study, A (activating event) refers to parental infidelity experienced by the participants that caused them to think on what they are going to do with their own lives upon knowing the issue between the parents. Since B is the irrational belief from the activating event, B (irrational belief) refers to stagnation and circumspection where the participants think that their experiences toward parental infidelity may not continue on with their lives due to apathy and passiveness in the environment.

The participant may also be distrustful and doubtful on others because they generalize people and events based on their experiences of parental infidelity, especially in establishing romantic relationships. C (consequential feeling or behavior) refers to the reaction of the participant toward parental infidelity. They may develop their thoughts, feelings, and behaviors that allow them to recognize (self-recognition) themselves in response to their experiences of parental infidelity. D (disputation) refers to the overturn thinking, feeling, and behaving of the participants caused by their disputation on their irrational beliefs regarding themselves in experiencing parental infidelity, allowing their lives to be better. And lastly, E (effective new responses) refers to the effective responses of the participant in identifying their thoughts and behaviors in adjusting and coping with the experiences of parental infidelity in order to improve their belief system and to continue facing their lives with rational thinking.

Through this research, future researchers and readers may gain information regarding the process that the children had to go to through in putting the pieces together in redefining their personality and changing their negative perception about love caused by the excruciating experience of parental infidelity that they did not expect to happen. The results of this study provide knowledge on how to deal with the lived experiences of those people who are experiencing infidelity in their family. Likewise, this study will be a basis for further future investigations about the said phenomenon.

References

Collins, W.A., Salvatore J.E., & Simpson, J.A. (2011) The impact of early interpersonal experience on adult romantic relationship functioning: recent findings from the Minnesota longitudinal study of risk and adaptation.

Creswell, J. W. (2009). Research Design: Qualitative, Quantitative and Mixed-Method Approaches. Third Edition. 2009. Sage Publications Inc.

Creswell, J. W. (2013). Research Design: Qualitative, Quantitative and Mixed-Method Approaches. Sage Publications Inc.

Cui, M., Fincham, F., & Durtschi, J. (2010). The effect of parental divorce on young adults' romantic relationship dissolution: what makes a difference?. *Personal Relationship.* doi: 10.1111/j.1475-6811.2010.01306.x.

Davis, D. A. (2011). Adultery or infidelity? Retrieved August 26, 2014, from http://bishopdadavis.wordpress.com/2011/09/30/adultery-and-infidelity/

Feist, J., & Feist, G. J. (2009). *Theories of Personality* (7th ed.). New York: McGraw-Hill International Edition.

Figes, K. (2013). How to ruin your child's chance of a happy love life: have an affair. *Daily Mail* (p. 26. 2p).

Firestone, L. (2013). Is your attachment hurting your relationship? Retrieved March 5, 2014 from http://www.huffingtonpost.com/lisa-firestone/how-attachement-style-impacts- relationships_b_3505615.html

Greene, K. (2006), *Awareness of parental infidelity on college student's reported commitment in romantic relationships.* Florida State University. Retrieved August 28, 2014 from http://diginole.lib.fsu.edu/etd

Hermes, A. (2013). Social learning theory in children. Retrieved August 28, 2014, from http://www.livestrong.com/article/238281-social-learning-theory-in-children/

Husserl, Edmund. (1913) *Ideas: General Introduction to Pure Phenomenology*, Traslated by W.R. Boyce Gibson. London, New York: Collier, Macmillan, 1962.

Koski, M. A. (2001). *Adult children of parental infidelity and their perspectives of love, intimate relationships marriage.* The Graduate School, University of Wisconsin-Stout. Retrieved September 28, 2014 from http://www2.uwstout.edu/content/lib/thesis/2001/2001koskim.pdf

Malate, J. (2010). *Marital infidelity: a case study.* Bicol University Grad School.

McLeod, S. A. (2011). Bandura - social learning theory. Retrieved August 28, 2014, from http://www.simplypsychology.org/bandura.html

Nogales, A. (2009). *How children are impacted by marital infidelity.* Retrieved February 27, 2014, from http://www.ananogales.com

Osarenren, N., Nwadinigwe, P., & Anyama, S. (2013). The impact of marital conflicts on the psychosocial adjustment of adolescents in Lagos Metropolis, Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS) 4(2)*, 320-326.

Platt, R. A. L., Nalbone, D. P., Casanova, G. M., & Wetchler, Joseph, L. (2008). Parental conflict and infidelity as predictors of adult children's attachment style and infidelity. *The American Journal of Family Therapy*, *36*: 149-161.

Reid, M. (2014). The causes of marital infidelity. Retrieved August 26, 2014, from http://www.livestrong.com/article/172099-the-causes-of-infidelity-in-marriage/

Spence, A. M. (2009). *Adult children's accounts of parental infidelity and divorce: associations with own infidelity, risky behaviors, and attachment* (unpublished masteral thesis). University of Colorado, Colorado.

Thorson, A. (2009). Adult children's experience with their parent's infidelity: communicative protection and access rules in the absense of divorce. *Communication Studies.* Vol 60, No. 1, 32 – 48.

Turner III, D. W. (2010). Qualitative interview design: a practical guide for novice investigators. *The Qualitative Report.* Volume 15 Number 3, 754-760.

Zhang, Y. & Wildemuth, B. M. (2009).Unstructured Interviews. Retrieved February 27, 2014, from http://hsmi.psu.ac.th/upload/forum/Unstructured_interviews.pdf.

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Learner Classroom Engagement: Definition, Measurement and Data Usage

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Abstract

Ensuring that learners are engaged is of high priority in any learning environment. Signs of such *engagement* include learners who are investing a lot of effort, remaining highly focused, persisting and enjoying challenges. Despite this, learners put into autonomous learning situations (undertaking work away from an instructor) may exhibit signs of *disengagement*, such as not doing the work, becoming distracted, or even distracting others. Identifying when and with who such issues may be occurring during learning can be crucial for instructors if they are to make relevant changes in order to promote higher levels of classroom engagement. Feedback from observation schemes, as well as learner surveys and interviews are the most commonly used approaches to identifying engagement problems. An experiment involving a mixed-method approach to analysing the engagement of 10 Japanese university students in English classroom discussions was undertaken and results discussed. Results generally showed that combining weekly observational recordings with student surveys and interviews revealed a satisfactory overall picture of the engagement of the students during discussions (in terms of behavior, feelings towards work undertaken and cognitive processes) and uncovered some potential reasons for low engagement. However, each of the three data collection methods came with clear issues themselves (such as reliability, validity and consumption of time) and require adaptation to better suit the situational needs of different teachers and students.

Keywords: Engagement, Motivation, Classroom Learning, Discussion Tasks

Defining learner engagement

A good starting point is to explain what 'engagement' actually refers to for learners. As Klem and Connell (2004) state, learners who are engaged will invest a lot of effort in work, enjoy the challenges put before them and persist rather than giving up quickly or easily. This makes it clear that engaged students will not only exhibit actions which demonstrate involvement in tasks (visible behaviors such as discussing and completing classroom tasks for example), but will also enjoy the work put before them, as well as apply varying cognitive processes in an effort to complete and master that work. These three elements of engagement are defined by Fredericks, Blumenfeld and Paris (2004) as *behavioral* (positive actions towards completing work), *emotional* (positive feelings towards the work) and *cognitive* (making efforts to complete and master the work) engagement. All three are clearly important for learners to be said to be truly engaged and need to be assessed during learning for classes. It can be confidently stated that learners who become highly engaged in these ways will be more likely to reach a state of 'flow', during which they will have intense focus, enjoyment, engagement with a task, and a lack of self-consciousness (Csikszentmihalyi, 1997). This is believed to lead to better performance from learners due to repetition, motivation, exploration, satisfaction, more time on task and more willingness to take risks. (Egbert, 2003).

Several common issues exist for learners which may prevent them from becoming engaged in such a manner. Problems with confidence and low interest in the work at hand, for example, can lead to low levels of willingness to communicate amongst learners during class and undesirable behaviors (MacIntyre, Clément, Dörnyei & Noels, 1998). These may include learners becoming bored, distracted, or even disruptive to the engagement of others (Carless, 2007) and decrease the chances of learners reaching a state of flow. Identifying when situations such as these may be occurring is of high importance for ensuring that learners are progressing as they should be in class. However, accurately and reliably measuring how engaged students are is a complex and questionable issue, which will now be discussed.

Classroom engagement measurement challenges

Due to the benefits of high levels of learner classroom engagement mentioned above, exploring how to combine different available measures to appropriately assess how engaged learners are has become a large area of educational research in recent years (Darr, 2012; Fredericks & McColskey, 2012; Stroud, 2015). The main approaches presently discussed consist mainly of:

- *Teacher intuition* - a simple and fast approach to gathering data which should not be overlooked as a reliable way of gaining an overall sense of how engaged learners are. Any experienced teacher will know that first impressions about how learners are reacting to the work put before them (through watching them work) can often by quite accurate. However, data gathered through this method alone is rather limited in terms of exact actions, feelings and though processes which learners might undertake.

- *Observation schemes* - one quick and simple approach to measuring engagement is for teachers to watch students and score their engagement levels in

real-time based upon pre-determined observable markers, such as when they are deemed to be focused on their work or not (Guilloteaux & Dörnyei, 2008; Stroud, 2013; Volpe, DiPerna, Hintze & Shapiro, 2005). However, this is not a very detailed method for collecting data and may not tell us much about students' non-observable behavior, emotions or cognitive processes during work (important parts of engagement discussed earlier). If more detail about what students did, felt or thought during work is required than this then recordings of student spoken or written work can be analyzed in more depth. However, this requires more of a work and time commitment from teachers, as well as other experiment related considerations (such as ethical guidelines and possible atypical behavior of students due to recording them).

- *Learner surveys* - these can act as an extremely fast approach to collecting and analyzing large amounts of data on engagement from learners (especially if they are administered, completed, gathered and processed electronically). Examples of recently used surveys in an educational setting include the *School Engagement Measure (SEM) survey* (Fredericks, Blumenfeld, Friedel & Paris, 2005) and *High School Survey of Student Engagement* (HSSSE) (available at http://ceep.indiana.edu/hssse/index.html). Asking learners directly about their actions and feelings during classwork has the potential to uncover data which observation schemes cannot always tell a teacher. However, surveys in any research field can be questioned in terms of validity and reliability, and questions students are asked within such a survey must be carefully worded, ordered and administered in an appropriate manner, as to ensure students will give honest answers which do in fact indicate levels of engagement as they are intended to be examined.

- *Learner interviews* - asking learners directly about classwork can be a fruitful way of gathering data about how engaged or not they may be in their learning. Interviews may work particularly well to examine questions which may arise from observation or survey data. For instance, if a teacher was to discover that students did not become very engaged in certain tasks or during certain parts of a class, then interviews could attempt to find out why this may have been by directly asking learners exhibiting such behavior about it. Issues with using interviewing to gather data on engagement include the skills required to interview students in order to gather valid data and the skills needed to interpret answers given (determining what questions to ask, how to ask them and what answers actually mean in terms of engagement). Additionally, interviews may be time-consuming and certainly will not be as quick as surveys for example in terms of gathering large numbers of responses.

- *Experiential sampling* - an alternative method to examining engagement for learners at certain times during class involves asking them to answer questions about their actions, emotions and cognitive processes at different times (Yair, 2000). At set time intervals, or when an alarm goes off in the classroom, learners can explain exactly what it is they were doing, thinking, or feeling at that exact time. This is an effective way to catch learners in the moment, so that their engagement at that time can be recorded, rather than asking them at a later time (when they may not be able to recall such data). However, collecting data in such a way may well be time consuming and potentially counter-productive for learning by distracting students from their actual work.

Using an appropriate combination of the above methods to collecting reliable and valid data on student classroom engagement is a great challenge in educational settings. Deciding which approaches to use would depend on several factors such as how engagement has been defined, how detailed the data required is, and the amount of time available to the teacher and learners for gathering data. If learners are simply required to talk to one another and the content of such speech is not seen as crucial to making a judgement on the level of engagement achieved, then a simply observation scheme (such as awarding points for when students are and are not judged to be engaged across time increments for task work) supported by a survey may be enough to satisfy a teacher as to whether a class is adequately engaged in work or not. However, if the precise content of work on an individual basis is required for example, then a more detailed examination (most likely involving recordings and one-to-one interviews) may be required.

Utilizing learner engagement data

Once a teacher is satisfied that enough data has been collected, it is then important to decide how to interpret and use that data to better the learning undertaken by the same learners in the future. Several ways in which such data might be used are discussed below:

• *Assessing and helping individual learners* - understanding when particular learners in a class may need assistance can be revealed by measuring classroom engagement. If possible reasons as to why such learners are exhibiting low levels of engagement are understood by a teacher, adaptations to better suit the personal needs of individuals can be made in terms of differing learning styles, ability levels, or mode of output for work for example.

• *Assessing and altering syllabi* - if general engagement issues are discovered from data collected for an entire class of learners (such as low levels of engagement during certain types of tasks for example), then changes to the design of coursework and syllabi which may improve engagement levels can be made. Furthermore, if common reasons amongst the learners for engagement issues can be identified, then the effects of alterations in the design of work undertaken can be examined by a teacher in order to further increase learner engagement in the future.

• *Continual feedback for a teacher* - Once changes have been made for individuals or whole classes of learners, a teacher can keep a record of engagement figures using the same scales they have adopted for measuring it across time. Positive (or negative) changes recorded in engagement (as the teacher is measuring it) due to alterations made can be learnt from and used to better design coursework to nurture classroom engagement in the future.

Experiment

An experiment was devised to examine the reliability of using a combination of the recently documented and researched data collection methods discussed above for assessing learner classroom engagement. Second language pair discussion tasks were selected as the classwork to examine, with a combination of an observation scheme, learner surveys and learner interviews to assess engagement.

Experiential sampling was not used, as it was seen as impractical in terms of time taken to do it during a discussion and the distraction it may cause for learners. The exact research question addressed in the experiment was:

Can learner classroom engagement issues for pair discussion tasks be confidently identified and explained using the triangulation of data between a) an observation scheme, b) learner surveys and c) learner interviews?

Participants

10 low-level Japanese university students with an average TOIEC score of 441 (standard deviation of 109) undertook weekly classroom-based pair discussions during an English communication course, which were recorded and analyzed for levels of engagement. Students met every week for 90 minutes for eight weeks, during which they undertook their discussions at the beginning of each class.

Data collection

Data regarding classroom engagement for the ten students was collected and triangulated using the following three methods:

1.   Observation scheme

Audio recordings of student pair discussions were collected each week using microphones placed upon students' desks. Students were desensitized to the recording equipment several weeks prior to the experiment, so as to avoid any atypical behavior due to direct observation and recording. The recordings were transcribed and analysed after collection and the levels of engagement of students within the experimental discussions measured using the measurements below (higher values for each were judged by the researcher to represent higher levels of behavioral, emotional and cognitive engagement within a discussion):

*   Total speaking turns taken (at least one clause in length)
*   Total words spoken
*   Mean words per speaking turn
*   Total opinions given (including agreements and disagreements)
*   Total supporting reasons given
*   Total 'requesting' turns taken (including questions asked, clarification check, and requests for help)
*   Total 'helping' turns taken (including paraphrases attempted and help given for a partner's speech)

2.   Learner surveys

A survey was distributed in Japanese to the students after all eight of the discussions had been completed, in order to gather self-reported data for classroom engagement. Eighteen items were used to analyse student *general engagement* (feelings towards practicing and using English with people at the university), *discussion engagement* (using English to undertake the classroom discussion with their partner) and *out-of-discussion engagement* (feelings towards becoming engaged in actions outside of the

discussions themselves to improve at doing them). Items were written in a mixed order, reversed in polarity in places, and scored between zero and three points. Details of the survey can be seen in the appendices.

3.   Learner interviews

Following the observation scheme and survey results, four specific students were selected for interviewing (based on pair discussion engagement issues identified by the researcher) to further explore potential reasons for such issues. Interviews lasted approximately five minutes and the interviewees were simply asked *"what would make it easier for you to speak a lot in the discussions?"*.

Results and discussion

a.   Observation scheme

Following the recording, transcription and analysis of the eight weekly discussions for each of the five pairs of students (totalling 40 eight-minute pair discussions), the final observation results were calculated and are shown in Table 1.

Student	Word count	Number of turns	Words per turn	Opinion / Agree / Disagree	Supporting reason	Request act (ask question / clarify / request help)	Help act (paraphrase / give help)
S1	145.8	14.3	10.2	5.9	3.6	5.1	0.3
S2	167.3	13.7	12.2	5.1	3.7	6.1	0.5
S3	164.8	7.7	21.4	3.3	7.3	4.4	0.5
S4	125.6	6.6	19.0	4.2	5.7	**0.6**	0.4
S5	127.3	12.5	10.2	5.4	3.5	4.6	0.3
S6	117.5	11.5	10.2	4.8	4.5	**2.4**	0.8
S7	124.0	11.1	11.2	3.2	2.9	5.7	1.2
S8	105.4	9.7	10.9	2.6	3.8	3.7	1.7
S9	**80.5**	**5.6**	14.4	**1.7**	**2.0**	**2.3**	0.3
S10	**45.6**	**5.7**	8.0	**1.1**	**2.3**	**2.4**	**0.0**
AVERAGE:	**120.4**	**9.8**	12.8	3.7	**3.9**	**3.7**	**0.6**

Table 1. Observation scheme figures for each student across eight discussions.

Several figures for engagement in Table 1 were considered to be potential issues by the teacher (set in bold in the table). In terms of overall averages, the teacher felt that although the students took adequate speaking turns (an average of almost ten each) and gave a sufficient number of different opinions each (averaging 3.73), there were not enough words spoken on average by each student in the eight minutes assigned (only 120.36 words on average per student). This low number of spoken words was felt by the teacher to be possibly due to the shortage of questions students asked their partner (averaging only 3.73 each), the low number of supporting reasons given to make turns longer (3.93 average), and the low amount of 'helping' between students to sustain speaking (averaging 0.6 paraphrases or helping turns per student).

These may need addressing in teaching for the students, so as to boost the number of words they will say in discussions in the future.

In terms of individual data, the engagement values of most concern to the teacher were for students 9 and 10, with both students exhibiting what were considered by the teacher to be low average figures for almost every engagement measure used. These students may need particular attention from the teacher in order to identify and tackle any issues which may be resulting in such low engagement compared to classmates. Weekly values for the total words spoken in discussions were also examined to attempt to see any patterns in engagement issues across the eight weeks for the individual students (see Graph 1). Several of the students appeared to speak less often as time progressed across the eight weeks (especially students 6, 7, 9 and 10) and this decrease in engagement in discussions over time would need addressing from the teacher. However, reasons for such issues for the students would need further examination and results for the individual surveys and interviews performed will now be used to do so.
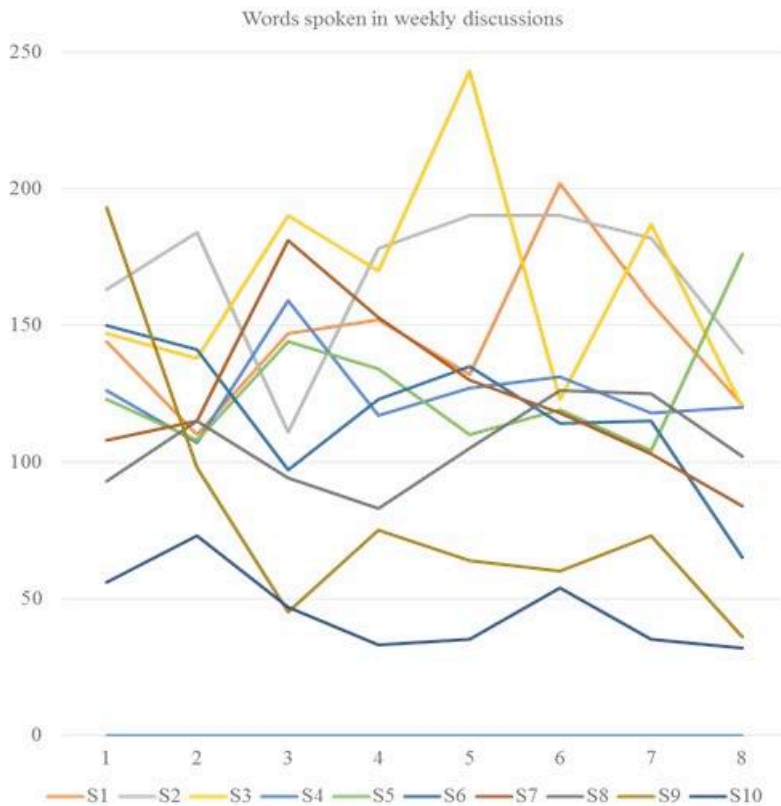
Graph 1. Words spoken each week by students across eight weeks of discussions.

b.   Learner surveys

Total student scores calculated for each of the three engagement types measured with the survey (general, discussion and out of discussion) are shown in Table 2. In terms of the average scores for the class, the data was viewed as quite uninformative by the teacher. Each engagement measure averaged around about fifty-percent of the maximum, not giving any clear indication of high or low self-reported engagement for the students. However, individual scores revealed more useful data.

	General engagement	Discussion engagement	Out-of-discussion engagement	Total score
S1	8	10	10	28
S2	11	7	7	25
S3	7	7	8	22
S4	9	8	11	28
S5	10	8	8	26
S6	8	**6**	9	23
S7	**5**	**4**	**3**	12
S8	11	9	10	30
S9	10	**5**	11	26
S10	**6**	9	9	24
AVER	8.5	7.3	8.6	24.4

Table 2. Learner engagement survey results.

Scores of six or less for each student (one-third of the maximum available) were considered to be of concern by the teacher and are set in bold in the table. Matching the observational data above, the same four students were found to show issues for engagement (students 6, 7, 9 and 10 again). Student 6 and 9 reported having low engagement for the actual discussions themselves (discussion engagement), student 7 reported having low engagement for all three measures, and student 10 reported having low general engagement at the university (general engagement). This data takes us a little closer to understanding why each student might have not spoken so much in discussions (and spoke less across time during each week's discussion), but interviews were also required to further examine reasons for such issues.

c.   Learner interviews

Following on from the findings of the observation scheme and surveys above, four students were interviewed. All four of the students were deemed by the teacher to have shown significantly low levels of classroom engagement and an undesirable decrease in engagement (in the form of words spoken per discussion) across time. In order to examine why this may have happened, each student was interviewed for approximately five minutes using an opening question of *"What would make it easier for you to speak a lot in the discussions?"*. The main points expressed by each of the students are summarized in Table 3.

Student	Preference to improve personal engagement in future classroom discussion tasks
6	Some kind of scoring for participation or English used; Competition between the partners for performing in the discussion
7	Having more time to plan for the discussion; Being able to choose more interesting topics
9	Being able to choose topics which the student is more familiar with and has more interest in
10	Having more time to plan what to say in the discussion

Table 3. Summary of learner interview responses.

The interviews served well as a follow-up to the observation scheme and surveys, revealing more about some specific reasons for low engagement for the four students during their discussions. Having more time to plan and discussion topics which are more familiar or interesting were explained as factors which may improve engagement by two of the students. Additionally, using some kind of scoring or competition between partners was reported by student 6 as a way to help them speak more in discussions in the future. Interviewing the students directly was an effective way of finding relevant task design issues which may increase individual and overall classroom engagement in the future. The effects of student preferences to discussion task design stated by the students (see Table 3) are not examined in this paper, but would make very interesting areas of further research into examining how engagement data collected can actually be used to improve engagement or not.

Conclusions

This paper examined the usefulness and practicality of using a mixed-method approach to analysing the classroom engagement of learners undertaking discussion tasks with a partner. It was shown in the results that using a combination of an observation scheme, learner surveys and learner interviews can reveal some specific data about the actions, feelings and cognitive processes which learners may undertake during class.

The observation scheme used was successful in showing how much students participated orally in their discussions (how many words they said each week) and what kinds of cognitively challenging contributions they made during that time (asking questions or giving help to their partner for example). This was used to determine which of the students may be experiencing issues with engagement in their work. Although this is valuable data for a teacher who is assessing the engagement of students in classroom tasks, this approach to data collection was very time consuming and may not always be practical. If time is available to a teacher to record, transcript and analyse students in this way then such observations will be a very fruitful method for data collection. However, teachers short of time may need to simplify such a method, by using a less detailed 'checkbox' approach to observing students in real-time for example (by watching students and awarding points across time increments for pre-determined measures of behavior such as paying attention to their task).

The survey used in the experiment was rather more limited than the observational data for revealing engagement issues amongst learners, with students generally giving quite average scores for each scale. Teachers need to remain aware that self-reported data collection from students such as this will not always reveal useful data and that survey responses will need careful interpretation. However, the students in the experiment who scored much lower on the engagement scales used were identified using this very quick method of data collection and were then approached for interviews to discover what their issues leading to low-levels of engagement may be. The interviews of these students were a little more time consuming than the surveys (something for teachers to also consider when deciding how many students to interview), but were very useful in revealing some key task design factors to address in order to try an increase student engagement in the future.

On the whole, the mixed-method approach adopted was very useful for establishing which students and for what reasons engagement issues may be present. Such an approach should be adopted by teachers who wish to analyse the effectiveness of their own teaching to create highly engaged classroom learning environments, whilst considering resources available such as time and classroom equipment to do so.

References

Carless, D. (2007). The suitability of task-based approaches for secondary schools: Perspectives from Hong Kong. *System, 35*, 595-608.

Csikszentmihalyi, M. (1997). Flow and creativity. *NAMTA Journal, 22*(2), 61-97.

Darr, C. W. (2012). Measuring student engagement: The development of a scale for formative use. In *Handbook of research on student engagement* (pp. 707-723). Springer US.

Egbert, J. (2003). A study of flow in the foreign language classroom. *Modern Language Journal, 87*(4), 499–518.

Fredericks, J., Blumenfeld, P.,Friedel, J., & Paris, A. (2005). School engagement. In K. A. Moore & L. Lippman (Eds.), *Conceptualizing and measuring indicators of positive development: What do children need to flourish* (pp. 305-321). New York: Kluwer Academic/Plenum Press.

Fredericks, J., Blumenfeld, P., & Paris, A. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59-109.

Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In *Handbook of research on student engagement* (pp. 763-782). Springer US.

Guilloteaux, M., & Dörnyei, Z. (2008). Motivating language learners: A classroom orientated investigation of the effects of motivational strategies on student motivation. TESOL Quarterly, 42(1), 55-77.

Klem, A. M. & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health, 74*(4), 262-273.

MacIntyre, P., Clément, R., Dörnyei, Z., & Noels, K. (1998). Conceptualizing willingness to communicate in a L2: A situated model of confidence and affiliation. *Modern Language Journal, 82*(4), 545-562.

Reeve, J. (2009). *Understanding motivation and emotion* (5th ed.). Hoboken, NJ: Wiley.

Stroud, R. (2013). Increasing and maintaining student engagement during TBL. *Asian EFL Journal, 59*, 28-57.

Stroud, R. (2015). Assessing student task engagement in learning. *Kwansei Gakuin University Humanities Review, 19*, 93-105.

Volpe, R. J., DiPerna, J. C., Hintze, J. M., & Shapiro, E. S. (2005). Observing students in classroom settings: A review of seven coding systems. *School Psychology Review, 34*(4), 454-474.

Wellborn, J. (1991). *Engaged and disaffected action: The conceptualization and measurement of motivation in the academic domain.* Unpublished doctoral dissertation, University of Rochester, Rochester.

Yair, G. (2000). Education battlefields in America: The tug of war over students' engagement with instruction. *Sociology of Education, 73*, 247-269.

Appendices

Engagement survey

Variable	Item	Polarity	How true are the following for you? (0 = untrue, 1= not very true, 2= true, 3= very true)
GENERAL	TASK PARTNER	P	I enjoy talking in English with my discussion activity partner(s) in class.
DISCUSSION	DISCUSSIONS	P	I enjoy discussing things in English in class.
OUT OF DISCUSS.	ASK TEACHER 1	P	Before and after discussions, I often ask the teacher for help with difficult discussion points.
GENERAL	FOREIGN STUDENTS	P	If I see a foreigner on campus, I would like to speak in English with them.
DISCUSSION	ATTEND	N	I would rather avoid going to classes with discussions.
OUT OF DISCUSS.	THINKING 1	N	Trying to figure out how to get better at discussions from week-to-
GENERAL	CLASSMATES	N	I dislike speaking English with other class members.
DISCUSSION	STRENGTHS	P	I would like to understand my discussion strengths and weaknesses
OUT OF DISCUSS.	MORE DISCUSS. 1	N	It is very unlikely I will talk more about discussion content/skills
GENERAL	FOREIGN STAFF	P	I want to try to speak English with more foreigners in the English
DISCUSSION	OPINIONS	N	I would like to avoid explaining my personal opinions to others in
OUT OF DISCUSS.	THINKING 2	P	I will often think about how to improve my discussion skills next time after a discussion.
GENERAL	TEACHER	N	I avoid speaking to my English teacher in English.
DISCUSSION	OWN GOALS	P	I would like to be able to create and manage my own discussion skills targets.
OUT OF DISCUSS.	MORE DISCUSS. 2	P	After I finish a discussion with a partner, I always try to talk about how well we did with them.
GENERAL	FOREIGNERS	N	When I see a foreigner somewhere in Japan, I would like to avoid speaking English with them.
DISCUSSION	IMPROVING	N	I think improving my discussion skills is too much effort.
OUT OF DISCUSS.	ASK TEACHER 2	N	If something is difficult in a discussion, I will stay quiet rather than ask the teacher how to do it better next time.

(Note: the grey areas in the table were not shown to the students)

A New Way to D.I.E.: Intercultural Communication Strategies

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Asian Conference on Psychology & the Behavioral Sciences 2015
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Abstract

This paper provides a brief overview of pertinent research and major theories related to communicating with people of different cultural backgrounds, as well as fun and useful techniques and strategies to use when teaching in international or multinational classrooms; and working or consulting in international or multinational school offices, companies, and organizations. The paper will conclude with a description of my new approach to one of the most common intercultural communication exercises called the E.A.D.

Keywords: intercultural communication, cross-cultural communication, racism, white racial models, D.I.E. exercise
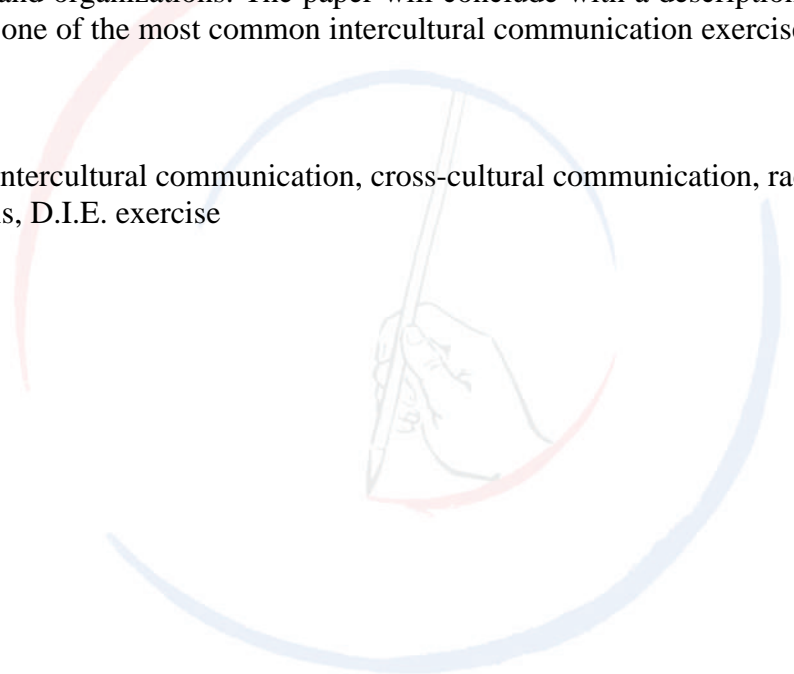
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Introduction

Over the past two years, I have presented a workshop titled *Confronting Underlying Racism for Effective Intercultural Communication*, and provided an brief description of an updated version of a classic exercise in intercultural communication training—one I have successfully employed in classrooms, businesses, organizations, and counseling sessions. The exercise is called the E.A.D. (Velasco, 2013), and, as stated before, it is a variation of an old intercultural communication exercise called the D.I.E.

The power of this revised version is that it has the potential to uncover underlying issues of prejudice, and I often focus on issues of racism due to its prevalence in Japan. Discussing racism in any context is never easy, and can be an extremely uncomfortable and painful experience, particularly when racial (or any prejudicial) tension is being exposed among the group. However, if there are underlying issues of racism, it is my belief that racism can and will lose its power and influence with increased cultural awareness, sensitivity, and effective intercultural communication, and open avenues of healing that surpass the uncomfortable moments experienced during the process.

That being said, this paper will reflect on

-pertinent literature that will assist in understanding not only racism, but also intercultural communication;
-several continuing research studies that help reveal racial tension among two different cultural groups; and
-the new intercultural communication exercise called the E.A.D.

This final note was mentioned in my previous article, but bears repeating for those who choose to believe there are is no racism present at your child's school, your workplace or within your community: The recent occurrence in Ferguson, Missouri, has affected not only this community, but the entire world, and has brought the issue of racism to the surface. Although it may never be certain if racism played a role in the shooting of Michael Brown, the comments left by readers are telling of the underlying issues that permeate the world. Words to describe the police office, who is white, ranged from "murderer" to "racist white devil"; however, the words used to describe the victim, who was black, ranged from "thug" to "criminal," and the protesters were labeled the worst—"thugs," "welfare thieves," "uncivilized brutes," and, probably the worst, "monkeys" (Salter, 2104; Zagier, 2014).

The remainder of this paper is from my previously published article, which was the foundation and guide for the workshop given at the 2015 Asian Conference on Psychology & the Behavioral Sciences.

Confronting Underlying Issues of Racism

In last year's article, I included such historical events as the Nanjing incident (Askew, 2002), or modern acts of xenophobia, such as the attack on a Chinese tour bus (Jize, 2010) as examples of racial tension that reached boiling points, culminating in unthinkable acts.

The truth of the matter is that racial tension has reached new heights all across the world, not just in the United States and Japan; however, because I am currently in Japan, my research in the field of intercultural communication and racism has focused on these two countries.

Last year, I asked 50 Japanese participants (both male and female, between the ages of 20 and 55) two things: 1) their age, and 2) their immediate and honest response to one phrase: "Say the first word that comes to mind when I say *Nigerian*" (the phrase was asked in Japanese, but translated into English for publication). Forty-eight responded, without hesitation, "怖いです," which is Japanese for *They're scary* or *I'm afraid* (many of the younger female participants made facial and hand gestures to indicate their fear, and although I did not officially document the second word out of their mouths, half of the Japanese females followed their response up with "やだ," which has many translations, but most commonly, "I don't want [to/it]"); and the remaining two, both older men, stated matter-of-factly, "犯罪者"—criminal.

For this article, I decided to poll nineteen Nigerian men and one Nigerian woman, and asked them the same two questions: 1) their age, and 2) their immediate and honest response to one phrase: "Say the first word that comes to mind when I say *Japanese people*" (Note: This study took place in October 2014, in Tokyo). All of the participants said one of the following four words: ignorant, close-minded, rude, and, racist.

There are many race models, and while the following are labeled "white race models," I do not include "white" when I apply them to my research because I believe these models can be applied to all races. The most notable race models include Hardiman's (White) Racial Identity Model (1992); Helm's (White) Racial Identity Development Model (1995); and Rowe et al.'s (1994) (White) Racial Consciousness Model (Daniels, 2011). Kovel (1994) explores models of white racial identity development, and pointed to some startling research: "The less aware subjects were of their White identity, the more likely they were to exhibit increased levels of racism" (p. 265). Again, to be clear, while the Japanese should not be compared to white Anglo-Saxon Americans, I do believe there is a connection between the racial identity models and current racial beliefs with regards to immigrants inhabiting a country where there is one dominant race.

Again, the point of these surveys was neither to accuse the Japanese nor the Nigerian populations of racial profiling, but reveal the need to further cultural awareness, cultural sensitivity, and cultural acceptance on a global scale, and this can be achieved, in part, through effective intercultural communication.

Effective Intercultural Communication

Countless articles and books have indulged in the now-cliché observation regarding the world becoming smaller. The world is, in fact, becoming easier to access, both physically and virtually, thanks mostly to advancing technology; however, it is deceiving to believe that an easier accessible world equals a diverse, accepting, and communicative one.

In an ongoing study ranging from 2010 to 2013, I surveyed 400 people from America, Canada, Mexico, Brazil, El Salvador, Nigeria, Egypt, South Africa, almost every country in Western Europe, Russia, Iran, South Korea, Japan, Taiwan, China, Thailand, Australia, and New Zealand. They were all asked to respond to the same statement: "List the three things that are most important to you." The results continue to reveal 98% of responses fall into these three categories:

1. Family
2. Career
3. Health/Quality of life

I presented these research results for the first time during the 2014 Asian Conference on Education in Osaka, Japan, but not before presenting the same statement to the attendees. Although their responses varied to some degree, the overall consensus mirrored my findings.

While some choose to believe that every human is part of one race—the human race—human beings are much more complicated than that, and grouping every cultural group together in an attempt to break down borders is both ignorant and disrespectful to cultural differences. In last year's article, I provided the first definition of culture: "Culture is that complex whole which includes knowledge, belief, arts, law, morals, custom, and any other habits acquired by humans who are members of a society" (Tyler, 1871).

Given this definition, intercultural communication—"a communicative exchange between persons of different cultures"—and the training involved has never been more in demand (Klopf and McCroskey, 2007, p. 58). Intercultural communities should reflect social structures and daily interactions that are defined by understanding, acceptance, respect, freedom, equality, diversity, and celebration, and yet there are challenges to intercultural communication: cultural assumptions, prejudices, stereotypes, miscommunications, misinterpretations, and racism, to name just a few. Strategies to overcome these challenges are self-awareness, avoiding stereotypes, honesty, respect, inquiry, and acceptance of differences and the difficulties that natural occur in communication. These strategies leads into the E.A.D. exercise that does more than just foster effective intercultural communication.

The E.A.D.

As stated earlier, the D.I.E. is one of the most, if not the most common exercise used in intercultural training. The D.I.E. exercise asks participants to describe, interpret, and evaluate an ambiguous object or photograph (Bennett, Bennett, & Stillings, 1977). Finding the model and it acronym problematic, Nam & Condon (2010) suggested D.A.E. (Describe, Analyze, Evaluate), with "analyze" supposedly being clearer directions for participants compared to the previous term "interpret" (in other words, problem solving versus judging) (p. 84).

However, when I applied these models to various situations, ranging from classroom settings to teacher training sessions to business consultations, I found that the participants always struggled with not judging the pictures first.

While the D.A.E. is more effective in its clarity, I found that allowing participants to first evaluate a picture, they often expressed their true opinions about certain individuals or situations that were shown in the pictures. I began using more ambiguous photographs, and decided to let them judge the photos first. The results were remarkable: Not only were racially charged comments made without censorship, but sexist and bigoted comments were openly made, as well. What followed was even more amazing: The groups began to openly discuss the roots of these comments, and worked as a group to dispel them.

So how does it work? First off, before I present the E.A.D. to participants, I explain that they are going to see an object, photograph or short video, or hear a scenario (e.g., a case study), and that the goal is to first evaluate or judge it, then analyze it, and finally describe it in the simplest of terms. I then show them a picture (or play the movie or read the scenario). One of the most common photographs I use is the following:

When I use this photograph and conduct the D.I.E. or the D.A.E., about 98% of the time no one states the obvious—that all the students are white. When I conduct the exercise using the E.A.D., not only do participant immediately realize that all the students are white, but racially charged adjectives, such as "privileged," become attached to the comments. This type of comment has led to incredibly honest discussions on race, power and privilege, and taking steps backward to then talk about analyses and descriptions opens the doors to further discussions and exercises that help begin to build (or in some cases repair) trust, respect, and open communication.

Conclusion

Regardless of whether you are an English as a Second Language instructor or a university professor, a teacher trainer or a department chair, a department manager or a Chief Operating Officer, this exercise can work to help foster better relationships among students and employees of varying cultural identities.

As I wrote in my article last year, if you are charged with improving work relations among your students or colleagues, and you suspect there are underlying racial tension or racist beliefs, there are many approaches you can take and strategies to implement. In my workshops, I teach several that teach participants how to better communicate with other cultures, and it is with these exercises that you can confront racism head-on. The E.A.D. accomplishes this goal by not asking participants to objectively describe what they see first, but instead, evaluate what they see; in other words, immediately answer the question, "How do I feel about what I see" (Nam & Condon, 2010, p. 85). By moving backwards through the D.I.E./D.A.E. process, we are able to move forward, confronting underlying racism, sexism or other issues that may be causing undue hardship and stress in your classroom or workplace. The goals for each and every session you use the E.A.D. should be to help those participating improve their self-awareness, cultural sensitivity, and effective intercultural communication.
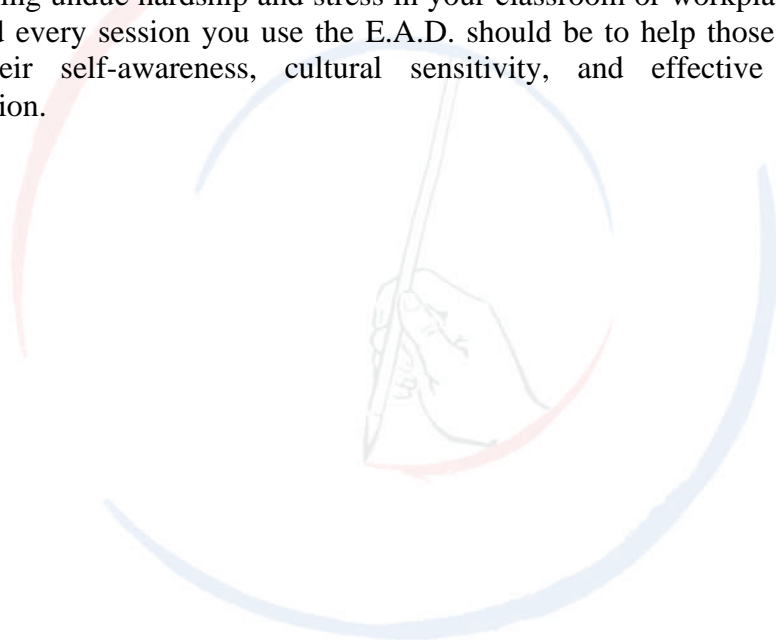
References

Askew, D (2002) The Nanjing Incident: Recent Research and Trends. *Electronic Journal of Contemporary Japanese Studies*. Available at: http://www.japanesestudies.org.uk/articles/Askew.html.

Bennett JM, Bennett MJ and Stillings, K (1977) Description, interpretation, evaluation: Facilitators' guidelines. Available at: http://www.intercultural.org/resources.php.

Daniels, J.A. (2001). Conceptualizing a Case of Indirect Racism Using the White Racial Identity Development Model. Journal of Mental Health.

Hall, E. T. (1990). *The Hidden Dimension*. New York: Anchor.

Jize, Q. (2010). Travel Warning Issued for Japan after bus attacked. Available at: http://news.asiaone.com/News/Latest%2BNews/Asia/Story/A1Story20101002-240207.html.

Klopf, DW, & McCroskey, JC (2007) *Intercultural Communication Encounters*. Boston, MA: Pearson Education, Inc.

Kovel, J (1984) *White Racism: A Psychohistory*. New York, NY: Columbia University Press.

Nam, K and Condon, J (2010) The DIE is cast: The continuing evolution of intercultural communication's favorite classroom exercise. *International Journal of Intercultural Relations* 34 (2010) 81–87.

Salter, J. (2014). Signs show Ferguson trying to move on from unrest. Retrieved on November 30, 2014, from http://www.msn.com/en-us/news/us/signs-show-ferguson-trying-to-move-on-from-unrest/ar-BBg7G0l

Zagier, A. S. (2014). Officer who shot Michael Brown resigns in Ferguson. Retrieved on November 30, 2014, from http://www.msn.com/en-us/news/us/signs-show-ferguson-trying-to-move-on-from-unrest/ar-BBg7G0l

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The Employee Outcomes of Workplace Favoritism in Turkish Public Sector

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Abstract

This paper investigates the effect of workplace favoritism on job satisfaction and intent to quit, and mediating the role of job frustration in these relationships. Data was collected from a sample of 267 public hospital employees in Turkey. Structural equation modeling analyses indicated that workplace favoritism was directly and indirectly effect on intent to quit and this relation was partially mediated through job frustration. Surprisingly, authors didn't not find support for hypothesis that the direct relationship between workplace favoritism and job satisfaction, but we found that workplace favoritism indirectly affect job satisfaction and job frustration fully mediate this relationship.

Keywords: workplace favoritism, job satisfaction, intent to quit, job frustration, collectivism

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Introduction

Favoritism is widespread cultural problem around the world. Tsui and Farh (1997) have shown us that guanxi as a type of favoritism is dominant in Chinese business life. "Wasta" as a form of favoritism is basic in Arab culture. Wasta provides unfair advantages to people because it depends on who they know (Mohamed & Mohamad, 2011). A recent survey revealed that workplace favoritism was found to be prevalent in the large U.S. companies (Gardner, 2011). As in other societies, favoritism is one of the most important management issues in Turkish business life (Izmir Chamber of Commerce, 1993).

According to well-known study of Hofstede's research (1984) about national culture, Turkey is a collectivistic society. This result refers that the in-groups relationship and personnel networks between friends, families, clans or organizations is very important in Turkey. In such a relational collectivistic culture, different types of favoritism can easily occur (Rhee, Uleman & Lee, 1996). Because of the collectivist cultural characteristics of Turkey, favoritism is frequent in this society. Past studies have provided some evidences supporting this argument. For example, Mutlu (2000) found that nepotism and favoritism is widespread problem in Turkish organizations. Kasimoglu and Halici's (2002) study showed that workers always complain from favoritism in organization in Turkey.

The past studies concerning favoritism have focused on in-group/out group favoritism (Aboud, 2003; Galinsky & Moskowitz, 2000). Others focused on racial favoritism (Aberson & Ettlin, 2004; Rosette, Leonardelli & Phillips, 2008). Although workplace favoritism has been emphasized as a significant problem (Prendergast & Topel, 1996) in the literature, very few studies try to find out its negative consequences in any individualistic or collectivistic societies. In order to fill this gap, we examine the relationship between workplace favoritism and two of the most important employee work outcomes which include job satisfaction and intent to quit. And, we also investigate the mediating role of job frustration in these relationships. Frustration is very important variable in organizational behavior, because it's accompanied one of the most serious experienced negative emotions (e.g. annoyance and anger) in organizational life (Keenan & Newton, 1984). So, we make a contribution to the literature by investigating the role of workplace favoritism on employee work outcomes where mostly collectivistic society in Turkey.

Types of Favoritism

Workplace favoritism is type of injustice in organization (Roberts, 2009). It means that treating to employees differentially in the distribution of resources (Johnson, 2005). There are some close concepts with favoritism. These are nepotism and cronyism. But the meanings of these concepts are different. Nepotism is related to favoring relatives by a person who has power (Ford & McLaughlin, 1986) while favoritism is not only restricted to relatives. Second, According to Meriam Webster dictionary "cronyism" means that political preference for relatives or close friends regardless of their qualifications and skills by manager. Favoritism is different from cronyism for two reasons. First, political preference is not necessary in favoritism, it is related to any kind relationship that provide unfair advantage to a person. Second, a person who is the subject of favoritism isn't required relatives or close friends.

Favoritism, Job Satisfaction and Intent to Quit

Job satisfactions refer to employee's content his or her job. For example, satisfying and liking the job in any workplace. And intent to quit means that the worker does not wish to continue the existing job. The relationship between these variables can be explained as follows: if decisions in organization are based on relationship rather than employee performance, it can be mentioned workplace favoritism. In other words, if managers use their authority to reward privileged employees without regard to their true performance, they can cause favoritism in the workplace. Furthermore, if managers treat to employees inconsistently and unfairly, employees begin to consider that there is an unjust administration in the organization. Thus, workers lose their concentration for their work do. As a result, employees' job satisfaction decrease, and they want to quit to job. Based on these assumptions, we test our two hypotheses below;

Hypothesis 1: There is a negative relationship between workplace favoritism and job satisfaction.
Hypothesis 2: There is a positive relationship between workplace favoritism and intent to quit.

Mediating Effect of Job Frustration

Workplace favoritism refers to the privileged behavior among the employees by management in organization. If employees believe that there is favoritism in the workplace, in this case they may start to think that it was impossible achieving their goals with their effort. Because of this, employees will feel themselves frustrated (Lawrence & Edward, 1980). Job frustration means the lack of opportunities for goal attainment in organization (Spector, 1978). Frustrated employee thinks that all ways is blocked to achieving his/her desired goals (Spector, 1978). Because of the employee's sense of frustration, he/she can't perform effectively in his/her work related duties (Keenan & Newton, 1984). As claimed by Locke (1969, 1970), feeling of frustration or absence of the possibility of achieving goals cause a decrease of job satisfaction of employees. In a similar way, if the employees consider themselves as blocked in organization, they can decide to leave work. Based on these assumptions, we test our mediation hypotheses below;

Hypothesis 3: Job frustration mediates the relationship between workplace favoritism and job satisfaction (3a) and intent to quit (3b).
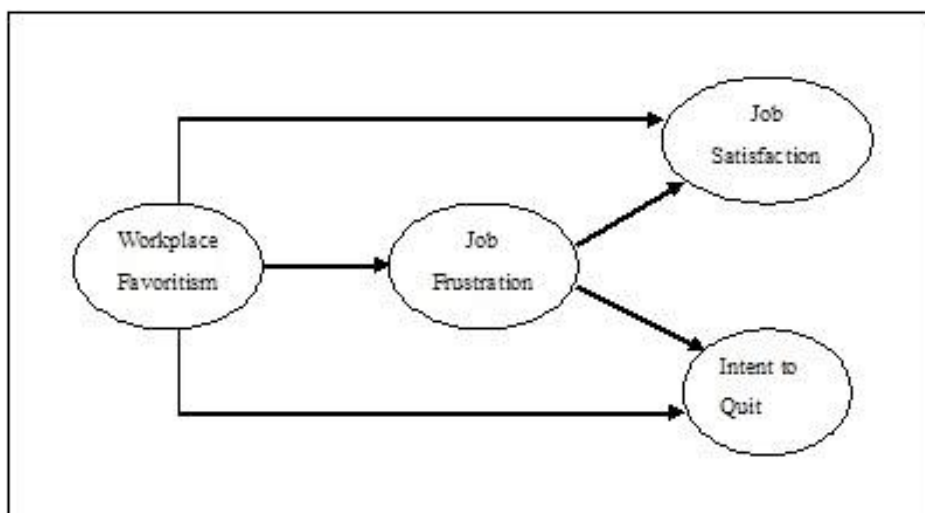
Figure 1: Theoretical Model

METHODS

Sample

Özbilgin (2012) noted that, although many types of nepotism as a part of favoritism manifest both public and private sector, it more common the public sector than private sector in Turkey. So, because of the favoritism is more prevalent in public sector, we picked employees of three public hospitals in Turkey to test our theoretical model. The average number of employees ranged from 300 to 500 in the hospitals. One of the authors applied to with the petition to the Health Ministry to collect data for this study. After receiving permission, author went to negotiation with hospital top level managers about how data is collected from employees. After the negotiations, one of the authors and his assistants was begun to distribute the questionnaires, and they collected filled questionnaires in the organizations. Participants completed questionnaires during work hours facilitated by researchers. All data collection process continued throughout the one month. In total, around 500 questionnaires were distributed and around 300 questionnaires (%60) were collected by researchers in five hospital organizations. After checking all the data collected, 267 questionnaires (%53) have been used for analysis.

52% of the sample is nurses, and the other employees (e.g., computer operators, auxiliary staff) are. 53% of research participants were women (%4.5 is missing). The mean age of participants was 33.4 years (range 19–55 years) and standard deviation was 7.38. %48 of sample was graduated from university and %37 of them had a high school degree. The tenure ranging from less than 1 year to 33 years ($M = 11.1$ $SD = 7.01$). The average annual income level of research participants was $ 7315.

Measurement Scales

We used translation / back translation method (Brislin, 1970) which was followed to translate the English measures into Turkish for all scales. One of the authors used a small pilot study with graduate students of Turkish business faculty for clarity of meaning and edited the measures for better understanding of our sample.

Workplace favoritism.

To assess the employees' perception of workplace favoritism, we used Roberts' (2009) seven-item scale. Sample items include "decisions are based on relationships rather than performance" and "some employees are given preferential treatment". Answers are obtained using a 5 point Likert-type scale (1= strongly disagree, 2= disagree, 3= slightly disagree, 4= neither agree nor disagree, 5= strongly agree). The reliability coefficient of this scale was .88.

Job frustration.

We measured the employees' perceptions of job frustration using Peters, O'Connor and Rudolf's (1980) three-item scale. Answers are obtained on a five- point Likert-type scale where 1= strongly disagree and 5= strongly agree. Sample item of it is "being frustrated comes with this job". The reliability coefficient of this scale was .73.

Job satisfaction.

Employees' job satisfaction was measured using the three item developed by Cammann, Fichman, Jenkins, and Klesh (1983). This scale measures subjective attitudes of the employees about work and organizations. Sample item of it is "all in all, I am satisfied with my job". Answers are obtained on a five- point Likert- type scale where 1= strongly disagree and 5= strongly agree. The reliability coefficient of this scale was .72.

Intent to quit.

We measured employees rated intent to leave their job using Lichtenstein, Alexander, McCarthy and Wells' (2004) three-item intent to quit scale. Answers are obtained on a five- point Likert- type scale where 1= strongly disagree and 5= strongly agree. Sample item of it is "I frequently think of quitting this job". The reliability coefficient of this scale was .81.

Data Analysis

To test our hypotheses, we used structural equation modeling (SEM) approach with AMOS 16. Because, SEM is a confirmatory approach to data analysis; it provides researchers with a comprehensive manner for assessing theoretical models (Anderson & Gerbing, 1988). We evaluated Model fit using the Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Tucker-Lewis Index (TLI) and Incremental Fit Index (IFI) and RMSEA (Root Mean Square Error of Approximation). Fit Index values of over 0.90 and RMSEA value of less are desirable and indicate an acceptable fit of the model to the data (Hu and Bentler, 1999).

We used two-step analytical techniques to test the hypothesized model shown (see Figure 1) suggested by Anderson and Gerbing (1988). First, we confirmed using confirmatory factor analysis to determine whether the measured variables reliably reflect the hypothesized latent variables (workplace favoritism, job frustration, job satisfaction and intent to leave), and later conducted SEM to estimate the fit of the hypothesized model to data. In the second step, a series of SEM path models were tested.

Descriptive Statistics

Table 1 shows the means, standard deviations, intercorrelations, and reliability coefficients of the variables. Only gender (r=. 158, *p* <.05) and age (r= -.178, *p* <.01) are significantly correlated workplace favoritism, and annual income is significantly correlated with intent to quit (r= .204, *p* <.01). Workplace favoritism is correlated with job frustration (r= .313, *p* <.01) and intent to quit (r= .345, *p* <.01). Job frustration is correlated with job satisfaction (r= -.391, *p* <.01) and intent to quit (r= .316, *p* <.01). And, job satisfaction is significantly correlated with intent to quit (r= .258, *p* <.01).

Later, we tested confirmatory factor analyses (CFA) to examine the distinctiveness of the four self-reported employee variables (workplace favoritism, job frustration, job satisfaction, and intent to quit). The results of CFA show that the four factor measurement model is fit than other models fit values (See Table 2).

Table 1: Means, Standard Deviations, Cronbach's Alpha, and Correlations among Variables

Variable	Mean	SD.	1.	2.	3.	4.	5.	6.	7.	8.
1. Gender	NA	NA	1							
2. Age	33.4	7.4	-.251**	1						
3. Education	14.3	2.6	.031	.073	1					
4. Experience (yr.)	11.1	7.1	-.199**	.825**	.112	1				
5. Annual Income (US$)	7315	309	.022	.225**	.537**	.322**	1			
6. Workplace Favoritism	3.18	.90	.158*	-.178**	.076	-.112	.017	(.88)		
7. Job Frustration	2.87	.95	.041	.003	.082	-.002	.016	.313**	(.73)	
8. Job Satisfaction	3.25	.89	-.005	-.074	-.084	-.091	-.069	-.097	-.391**	(.72)
9. Intent to Quit	2.59	1.05	.130	-.103	.156*	-.032	.204**	.345**	.316**	-.258*

Note. $N = 402$. Cronbach's alpha is presented in parentheses; NA: Not applicable.

* $p < .05$
**$p < .01$

Table 2: Model Fit Results for Confirmatory Factor Analyses

Models	x^2	df	Δx^2	Δdf	CFI	TLI	RMSEA
Four-factor model	205.12	98	—	—	.940	.926	.064
Three-factor model (job satisfaction and intent to quit are combined)	369.98	101	164.86	3	.849	.820	.100
Two-factor model (job frustration, job satisfaction and intent to quit are combined)	502.67	103	297.55	5	.775	.738	.121
Single-factor model	806.59	104	601.47	6	.605	.544	.159

All Δx^2's are significant at $p < .01$

Structural Equation Modeling

We tested our hypotheses by estimating in a structural equation model using the maximum likelihood estimation procedure. Results for the hypothesized structural model show a good fit to our data (x^2 (212,901)/ df (99) =2.151, p < .01, GFI= .907, IFI=.937, TLI=.922, CFI=.936, RMSEA= .066). These results indicate that data were consistent with the hypothesized model. Results are presented Figure 2 and Table 3.

Hypothesis 1 argued that there is a negative relationship between workplace favoritism and job satisfaction. Inconsistent to expectation, results didn't support this argument. Thus, our first hypothesis was rejected. Hypothesis 2 argued that there is a positive relationship between workplace favoritism and intent to quit. Results also supported this argument. Thus, our second hypothesis was accepted.

According the SEM analysis results, workplace favoritism is not directly related to job satisfaction, but it's negatively and indirectly related to job satisfaction (indirect path = .207, p<.01) and job frustration fully mediates this relationship. Thus, *H3a* was supported. Consistent with the expectation, workplace favoritism is both directly and indirectly and positively related to intent to quit and job frustration partially mediates this relationship. Thus, *H3b* was supported (indirect path = .132, p < .01, and the direct path = .268, p < .01).

Figure 2: Results of Standardized Regression Weights
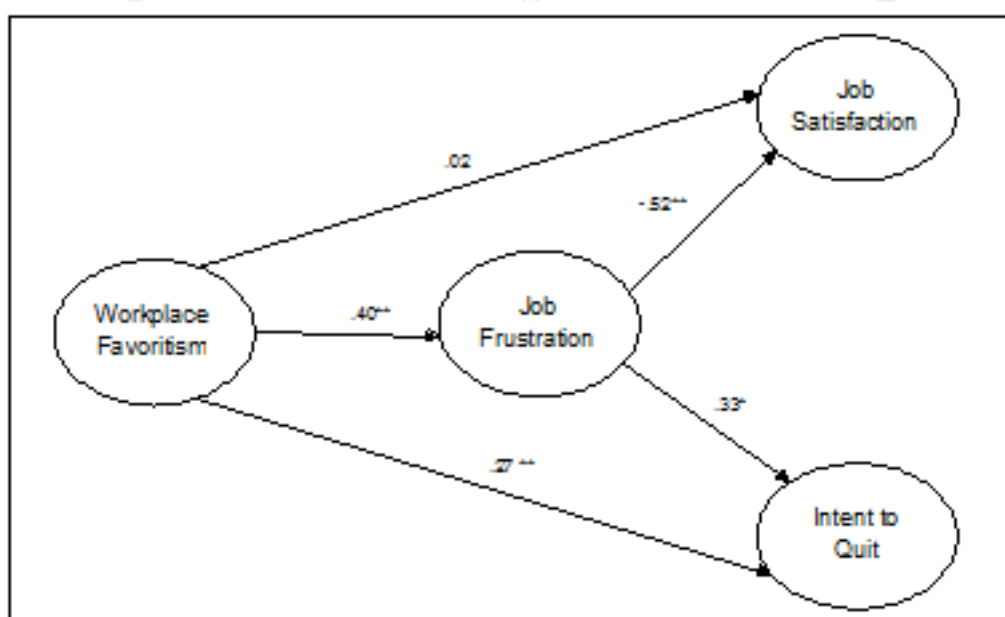
* $p < .05$
** $p < .01$

Table 3: Results from Tests of Direct, Indirect and Total Effects of Variables

Predictor		Outcomes	Direct Effect	Indirect Effect	Total Effect
Workplace favoritism	→	Job frustration	.397**	.000	.397**
Workplace favoritism	→	Job satisfaction	.023	-.207**	-.184*
Workplace favoritism	→	Intent to quit	.268**	.132**	.400**
Job frustration	→	Job satisfaction	-.522**	.000	-.522**
Job frustration	→	Intent to quit	.331**	.000	.331**

*$p < .05$
**$p < .01$

Discussion

Theoretical Contribution

Despite the various studies showing the impact of organizational justice on employee outcomes in the literature (Colquitt, Conlon, Wesson, Porter, & Ng, 2001), researchers have not yet focused on the consequences of workplace favoritism as a part of organizational injustice. In the present study, we extended organizational justice theory and research on workplace favoritism and by founding the effect of it on job satisfaction and intent to quit. We also found that the effect of workplace favoritism on job satisfaction and intent to quit were mediated by job frustration. So, this study makes a significant contribution to the field of organizational behavior by revealing previously unknown relationships.

Managerial Contribution

The results of this study indicates that workplace favoritism negatively impact on job satisfaction and positively impact on intention to leave. Managers who giving importance organizational effectiveness should try to show that favoritism is not take part in the organizational practices. While doing this, managers should clearly express to employees convincingly that the decisions in the organization are based on performance rather than personal relationships and they clearly demonstrate the high-performing employees are always rewarded in organization. This situation should be expressed frequently by managers in the meetings and negotiations with employees. In other words, they must convince to employees that no one is privileged within the organization.

Limitation and Future Research Suggestion

There are some limitations are associated with our study. First, we conducted our study in a collectivistic (Hofstede, 1984) and developing country. The model of our study can result differently in developed or other developing countries. Therefore, our results may not generalizable. Second, our study was conducted on a relatively small sample and it needs to be repeated in larger sample in the future.

Third, our model is simple (but easily understood), and more complex model needs to be researched in next studies. For instance, different mediators such as work stress, work alienation, exhaustion, work family interference and moderators such as personality, locus of control and cultural factors and can be investigated in the relationship between workplace favoritism and job satisfaction and intent to quit by researchers. In addition, the relationship between favoritism and other work related variables such as organizational citizenship behaviors, organizational commitment, and organizational trust or health problems (e.g. alcohol addiction, smoking, headache problems) can be investigated.

Conclusion

In this study, we try to draw attention to previously unexamined consequences of workplace favoritism for practitioners and researchers. We provide the significant evidence to understand the effects of workplace favoritism on two important employee work outcomes. We also provide the evidence that the mediating role of job frustration in the relationship workplace favoritism and employee work outcomes.

Note: This research paper has been supported by Gumushane University Scientific Research Project department.
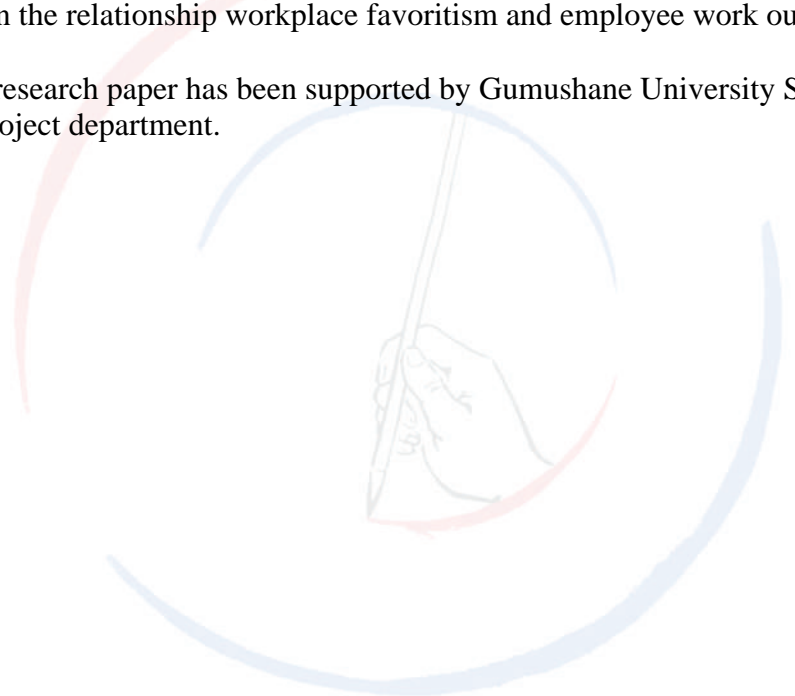
References

Aberson, C. L., & Ettlin, T. E. (2004). The aversive racism paradigm and responses favoring African-Americans: Meta-analytic evidence of two types of favoritism. *Social Justice Research,* 17 (1): 25–46.

Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: Are they distinct attitudes? *Developmental Psychology*, 39 (1): 48-60.

Anderson, J. C. & Gerbing D. W. (1988). Structural modeling in practice: a review and recommended two-step approach. *Psychological Bulletin*, 103 (3): 411-23.

Berman, E., West, J. P., & Richter, M. N. (2002). Workplace relations: Friendship patterns and consequences (according to managers). Public Administration Review, 62: 217–230.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1: 185–216.

Cammann, C., Fishman, M., Jenkins, D., Jr., and Klesh, J.R. (1983). Assessing the attitudes and perceptions of organizational members. In *Assessing Organizational Change*, S.E. Seashore, E. Lawler, P.H. Mirvis, and C. Cammann, Eds. Wiley, New York, pp. 71–138.

Colquitt, J., Conlon, E., Wesson, M., Porter, C., & Ng, K. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86 (3): 425-445.

Ford, R. and McLaughlin, F. (1986), "Nepotism: boon or bane", *Personnel Administrator*, 31 (11) 78-89.

Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: decreasing stereotype expression, stereotype accessibility, and in-group favoritism. *Journal of Personality & Social Psychology, 78*(4): 708–724.

Gardner, J. (2011). *Executive Masters in Leadership-Capstone Project*. Georgetown University, McDonough School of Business.

Hofstede, G. (1984). *Culture's consequences: International differences in work-related values*. Newbury Park, CA: Sage.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional versus new alternatives. *Structural Equation Modeling, 6,* 1-55.

Izmir Chamber of Commerce. (1993). Public Bureaucracy. Izmir Chamber of Commerce Publication, Turkey.

Johnson, L.K. (2005). Should you play favorites? *Harvard Management Update, 10,* 1-4.

Kasimoglu, M & Halici A. (2002). Discrimination areas in higher education institutions in Turkey and a scale development study. *International Journal of Educational Management*, 16 (7): 333 – 338.

Keenan, A., & Newton, T. J. (1984). Frustration in organizations: relationships to role stress, climate, and psychological strain. *Journal of Occupational Psychology*, 57, 57– 65.

Lawrence H. P. & Edward J. O. (1980). Situational constraints and work outcomes: the influences of a frequently overlooked construct. *The Academy of Management Review*, 5 (3): 391-397

Lichtenstein R, Alexander JA, McCarthy JF, Wells R. (2004). Status differences in cross-functional teams: effects on individual member participation, job satisfaction, and intent to quit. *Journal of Health and Social Behavior*, 45 (3): 322-335.

Locke, E. A. (1969). What is job satisfaction? *Organizational Behavior and Human Performance,* 4, 309–36.

Locke, E. A. (1970). Job satisfaction and job performance: a theoretical analysis. *Organizational Behavior and Human Performance,* 5, 484–500.

Mohamed, A. A., & Mohamad, M. S. (2011). The effect of wasta on perceived competence and morality in Egypt. *Cross Cultural Management: An International Journal*, *18*(4), 412-425.

Mutlu, K. (2000). Problems of nepotism and favoritism in the police organization in Turkey. *Policing: An International Journal of Police Strategies & Management*, 23 (3): 381-389.

Özbilgin M. (2012). Leadership in Turkey: toward an evidence based and contextual approach. In B. D. Metcalfe and F. Mimouni (Eds.), *Leadership Development in the Middle East,* 275-296. Edward Elgar Publishing, UK.

Peters, L. H., O'Connor, E. J., & Rudolf, C. J. (1980). The behavioral and affective consequences of performance- relevant situational variables. *Organizational Behavior and Human Performance*, 25, 79- 96.

Prendergast, C. & Topel, R. H. (1996). Favoritism in organizations. *The Journal of Political Economy*, 104 (5): 958-978.

Rhee, E., Uleman, J. S., & Lee, H. K. (1996). Variations in collectivism and individualism by ingroup and culture: Confirmatory factor analyses. *Journal of Personality and Social Psychology*, *71*, 1037-1054.

Roberts S. J. (2009). *Incivility as a function of workplace favoritism and employee impulsivity*. Unpublished Thesis the Department of Psychology and the Faculty of the Graduate College University of Nebraska, Psychology University of Nebraska at Omaha, USA.

Rosette, A.S., Leonardelli, G.J., & Phillips, K.W. (2008). The White standard: Racial bias in leader categorization. *Journal of Applied Psychology*, 93, 758–777.

Spector, P. E. (1978). Organizational frustration: a model and review of the literature. *Personnel Psychology*, 31, 815–829.

Tsui, A. S., & Farh, J. L. (1997). Where guanxi matters: Relational demography and guanxi in the Chinese context. *Work and Occupations*, 24 (1): 56–79.

A Phenomenological Study on How Cosplay Affects the Self-Presentation of Cosplayers

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Abstract

"A Phenomenological Study on How Cosplay Affects the Self-Presentation of Cosplayer" focused on (1) determining Cosplayer's level of Self-Monitoring, (2) identifying how Cosplayers present themselves a) in a fan group and b) as an individual in a real-world setting, (3) defining the correlation of Self-Presentation and Cosplay, (4) enumerating the factors that affect their self-presentation as individuals and as Cosplayers; and (5) validating the Uses and Gratification Theory of Katz and Blumer. Through snowball and stratified sampling, 93 (59 females and 36 males) cosplayers within the ages of 15 to 25 in Batangas City were chosen to participate in this study. The Self-Monitoring Scale and Jenshin's Cosplay Questionnaire were administered. With the use of Pearson Correlation, the researchers were able to conclude that there is a significant correlation at 0.05 level (2-tailed) with the Cosplayer's level of Self-Monitoring and Cosplay.

Keywords: Cosplay, Self-Monitoring, Self-Presentation, fandom, fan group

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Introduction

"Cosplay is translated from Japanese コスプレ. It is a Wasai-Eigo, English word coined in Japan in 1980s, based on the original idea of Costume Play,コスチューム・プレイ. Nobuyuki Takahashi, a Japanese editor, first used the term Cosplay to stand for Costume Play in a Japanese sci-fi magazine published in 1981, to specially represent Costume playing as characters from fictions.".(He, 2012). However, the art of Costume Play was not originally invented in Japan. Instead, the ever first time when people Costume Play characters from fictions, was at the First World Science Fiction Convention (WorldCon) in New York in 1939.

Moreover, He mentioned also that Forrest J Ackerman, the future editor of Famous Monsters of Filmland, a genre-specific film magazine started in 1958, dressed as a rugged looking star pilot recreated from the classic 1933 sci-fi film Things to Come. The way he dressed created a buzz among the attending writers, artists and fans at WorldCon. It injected a fanciful, imaginary quality into the convention's overly serious nature. The following year, 1940, a dozen of fans turned out in their own Sci-Fi apparel in the second WorldCon.

Philippines, like other countries, has become one of the active countries which has Cosplay Conventions happening almost every week. Proving its popularity in the Philippines, the country has an international cosplayer named Alodia Gosiengfiao that has always been a representative of the country to different international cosplay competitions. Alodia is not the only cosplayer who has become famous in this hobby. Ashley Gosiengfiao, Jin Joson and Hye Nim also made it into the international scene of Cosplay. Because of this, some Filipino teenagers entered the cosplay community as a passion and love for arts although some people used this as a stepping stone in reaching fame and popularity. They tend to share their passion and thus creating a circle of friends. Although it is very popular among teens, this hobby doesn't require age. These cosplayers sometimes chose the character to cosplay to whom they can relate their personality or traits in order to act or portray the character right. This reason somehow affect the cosplayer's self-presentation even if he/she is inside or outside of the cosplay or the anime community resulting to be seen as weird or geeks among the outsider's eye .

Jenkin's conception of Fandom is the state of being a fan or all that encompasses fan culture and fan behavior in general, or the study of fans and fan behavior (Jenkin 1992). Higher level anime fans express their Fandom further in a community where they can interact with other fans, such as in cosplay conventions, online forums, friends and fan clubs. Anime fans are influenced by their interaction inside these communities. The fan community allows fans to behave like other fans do—behavior that some fans find difficult to apply in the real world. However, as exposure to a fan community increases, fans become more expressive in their Fandom, as reflected in their distinct physical appearance. In effect, anime fans on higher levels of Fandom incorporate anime influences into their personalities.

Studies of Fandom (Lewis, 1992; Sanders, 1994; Gray et al., 2007; Booth, 2010) can provide valuable information and a general framework for academic research into cosplay. In Fandom: Identities and Communities in a Mediated World, Gray et al. (2007) explain how every one of us is a fan in some regard, whether through

following celebrities on the internet, pre-ordering the newest book in a favorite series, or dedicating time to catch the new episode of a favorite TV show. Booth (2010) describes this same idea and goes further to say that this common group helps us to relate to other fans, and therefore suggests that studying fans allows us to study ourselves. Gray et al. (2007) explain how the word "Fandom" gives the fans and practices that create fan cultures significance for scholarly researchers. Fandom is so present in our lives that Jenkins (2007) explains that media companies are being run differently today due to the increased visibility of Fandom and participatory culture. The economic and cultural impact and influence that "fan cultures" are having on consumer 19industries has led some media analysts to describe members of these communities "prosumers." As prosumers, "participants both produce and consume cultural products" (Olin-Scheller, 2010, p. 41). These communities, of which cosplay can be considered a part, are locales where fans bond within larger communities and share knowledge and opinions, pool information, and develop a greater consciousness about their commonalities and similar interests. He believes this is resulting in a new kind of cultural power and consumer influence.

Self-presentation builds on Goffman's (1959) theories of identity and social performance. Goffman's thesis is that self-presentation is the intentional and tangible component of identity. Social actors engage in complex intraself negotiations to project a desired impression. This impression is maintained through consistently performing coherent and complementary behaviors (Schlenker 1975,1980; Schneider 1981). . Goffman (1959) terms this process impression management. Thus, impression management relies on corporeal display, what Mauss (1973) labels body techniques, to communicate the desired identity, or self. The social actions required for self-presentation are consumption oriented and depend upon individuals displaying signs, symbols, brands, and practices to communicate the desired impression (Williams and Bendelow 1998).

The proponents engage themselves in this study for Cosplay, as a fast growing community, has become an arena for social interaction among adolescents, youth and adults who love or who are fans of anime, manga or video game series. And Philippines have been one of the active countries in the Cosplay industry within the past years.

Objectives of the Study
This research will examine the influence of cosplay on selected cosplayers' self-presentation in and outside a cosplay community by focusing on: (1) determining cosplayers' level of self-monitoring, (2) identifying how cosplayers present themselves a) in a fan group, and b) as an individual in a real-world setting, (3) defining the correlation of self-presentation and cosplay, (4) enumerating the factors that affect their self-presentation as individuals and as cosplayers; and (5) validating the uses and gratification theory of Katz and Blumer.

Theoretical Basis
One influential tradition in media research is referred to as 'uses and gratifications' (occasionally 'needs and gratifications'). This approach focuses on *why* people use particular media rather than on content. In contrast to the concern of the 'media effects' tradition with 'what media do *to* people' (which assumes a homogeneous mass audience and a 'hypodermic' view of media), U & G can be seen as part of a broader

trend amongst media researchers which is more concerned with 'what people do *with* media', allowing for a variety of responses and interpretations. However, some commentators have argued that gratifications could also be seen as effects: e.g. thrillers are likely to generate very similar responses amongst most viewers. And who could say that they never watch more TV than they had intended to? Watching TV helps to shape audience needs and expectations.

U & G arose originally in the 1940s and underwent a revival in the 1970s and 1980s. The approach springs from a *functionalist* paradigm in the social sciences. It presents the use of media in terms of the gratification of social or psychological needs of the individual (Blumler & Katz 1974). The mass media compete with other sources of gratification, but gratifications can be obtained from a medium's content (e.g. watching a specific programme), from familiarity with a genre within the medium (e.g. watching soap operas), from general exposure to the medium (e.g. watching TV), and from the social context in which it is used (e.g. watching TV with the family). U & G theorists argue that people's needs influence how they use and respond to a medium. Zillmann (cited by McQuail 1987: 236) has shown the influence of *mood* on media choice: boredom encourages the choice of exciting content and stress encourages a choice of relaxing content. The same TV programme may gratify different needs for different individuals. Different needs are associated with individual personalities, stages of maturation, backgrounds and social roles. Developmental factors seem to be related to some motives for purposeful viewing: e.g. Judith van Evra argues that young children may be particularly likely to watch TV in search of information and hence more susceptible to influence (Evra 1990: 177, 179).

An empirical study in the U & G tradition might typically involve audience members completing a questionnaire about why they watch a TV programme. Denis McQuail offers (McQuail 1987: 73) different classifications of common reasons for media use. These classifications of common reasons include information, personal identity, integration and social interaction, and entertainment. People use media for information to find out about relevant events and conditions in immediate surroundings, society and the worlds, to seek advice on practical matters or opinion and decision choices, to satisfy curiosity and general interest, to learn or to have self-education, and to gain a sense of security through knowledge.

Another reason is for personal identity where people utilize media to find reinforcement for personal values, to obtain reinforcement for personal values, to realize models of behavior, to identify with valued other (in the media) and to gain insight into one's self. In addition to these reasons, people also use media for integration and social interaction to achieve insights into circumstances of others or for social empathy, to characterize with others and gain a sense of belonging, to distinguish a basis for conversation and social interaction, to have a substitute for real-life companionship, to help in carrying out social roles, and to enable one to connect with family, friends and society. And lastly, people use media for entertainment to escape or divert their problems, to get intrinsic cultural or aesthetic enjoyment, for filling time, for emotional release and for sexual arousal.

Blumler & Katz (1974) argued that audience needs have social and psychological origins which generate certain expectations about the mass media, leading to differential patterns of media exposure which result in both the gratification of needs and in other (often unintended) consequences. This does assume an active audience making motivated choices.

Methods

This section discussed the research methodology of the study in terms of research design, participants of the study, instrument used, data gathering procedure and data analysis.

Participants

Figure 1 - Percentage of Participants

A total of 93 cosplayers in Batangas City was used in this study. These cosplayers range from 16 - 25 years age group who are certified cosplayers or cosplayers who have done costume plays and attended cosplay conventions. 34 or 37% of the participants were male while 59 or 63% cover the female respondents.

Research Design

This study which is entitled "A Phenomenological Study on How Cosplay Affects the Self-presentation of Cosplayers", makes use of quantitative and qualitative methods and snowball, and stratified sampling in determining how cosplay affects the self-presentation of cosplayers in and outside the cosplay community and choosing the respondents. Qualitative research methods include both subjective and objective in predicting and coming up with such factors that affect the self-presentation of the cosplayers. On the other hand, quantitative research methods make use of statistical tools in measuring the how cosplay affects the self-presentation of cosplayers in and outside the cosplay community of a given sample of population. It employs numerical data in the process.

The researchers used various kinds of samplings in choosing the participants for this study. First is the Snowball sampling (Babbie 2012) where the researchers asked for assistance from the participants to help identify people with a similar trait of interest. The process of snowball sampling is much like asking your subjects to nominate another person with the same trait as your next subject. The researcher then observes the nominated subjects and continues in the same way until the obtaining sufficient number of subjects. After this, all of the participants are now closely studied to acquire the necessary or the participants that are certified cosplayers through stratified sampling.

Measures

Through the course of this study, the researchers used series of questionnaires and interview questions to measure and know how cosplay affects the self-presentation of cosplayers in and outside the cosplay community. The first questionnaire is the Self-Monitoring Scale. It was developed by Mark Snyder (1974). The Self-Monitoring (SM) Scale is a 25-item questionnaire that measures the extent to which you consciously employ impression management strategies in social interactions with T or F scale (T = true or mostly true, F = false or not usually true). Basically, the scale assesses the degree to which you manipulate the nonverbal signals that you send to others and the degree to which you adjust your behavior to situational demands. The total score on the Self-Monitoring Scale of the participant is measured according to the following norms: High score = 15 – 22, Intermediate score = 9 – 14 and Low score = 0 – 8.

The second questionnaire used is the Jenshin's Cosplay Questionnaire. It is comprised of 26 items that assesses a cosplayer's attitude. And lastly, is the interview questions drawn out from the previous questionnaire and scale to obtain more needed information for this research.

Procedure

The researchers first pass proposed topics for the research, presented this topic to the adviser and waited for the approval of the topic. This study entitled "A Phenomenological Study on How Cosplay Affects the Self-presentation of Cosplayers" has been passed for the approval of the adviser.

The researchers then gathered related literature to strengthen its foundation. As a requirement, a pilot study will be administered to ten random cosplayers before proceeding to the research proper. A pilot study should be carry out first to assess the feasibility of the study, develop adequacy of the research instruments, to collect preliminary data and to identify potential problems following the research procedure. During the research proper, participants or cosplayers will be first asked to read the consent form, agree to the conditions and sign with their complete name in order to gather data correctly and also as a formal way of starting the study. After agreeing to be part of this research, two different questionnaires such as Jenshin's Cosplay Questionnaire and The Self-Monitoring Scale are distributed to the participants. Afterwards, participants were interviewed by the researchers using the interview questions drawn out from the previous questionnaire and scale to draw more information needed in this research. The data that will be obtained from this study will be then recorded and tabulated for computations.

Analysis

After all the data has been gathered, the acquired information were analyzed and computed in ways that will answer the said objectives of the study. Textual presentation and tabular presentation of data were both employed in this study. Textual presentation was used to present statements with numeral or numbers to describe data. Furthermore, this was used to focus attention on some important data and to supplement tabular presentation. Tabular presentations of data were used in terms of statistical table or simple table to systematically arrange essential data on the study.

Results

This section includes the results of the paper. Tables and graphs present the summary of data gathered for the objectives of this study. The quantitative data was analyzed through the use of Pearson r Correlation.

Table 1.1 Cosplayers' level of self-monitoring

Number of Characters Cosplayed	N	Mean	Interpretation
1	68	10	Average
2	10	10	Average
3	5	11	Average
4	2	14	Average
5	1	16	High
6	3	12	Average
7	1	11	Average
14	1	4	Low

Here, table 1.1 explains that, if a cosplayer has cosplayed a lot of characters, the lower they scored in Mark Snyder's self-monitong scale is. It is interpreted that a cosplayer who has a higher number of cosplayed characters resulted in a low score in self-monitoring, which is, these cosplayers controls their own beliefs and attitudes regardless of any social interactions they may encounter. May it be inside the fan or cosplay community and in a real world setting. In other words, they are less observant to their social interactions and express themselves the way they wanted.

People who scored high in the self-monitoring scale are the cosplayers who has a low number of cosplayed characters. They are the cosplayers who are concerned with how they present themselves in their social interactions. High scores were interpreted as people who wants to impress others by making or projecting an image that results to positive feedback.

Table 2.1 Self – Presentation of Cosplayers in a Fan Group based on Cosplay Character

Domain	Category	Frequency
Personal Preference	• I only pick the characters that I really love since ung true essence of cosplay is portraying a character that you really love. • kung sino lang ung gusto ko, kase hindi naman kailangan na kung ano ung bagay sayo. Siyempre, ikaw ba, ikocosplay mo ba ung character na hindi mo gusto di ba? (7)	Typical
Personality Trait	• Unang una ung mejo malapit sa sarili ko. Dahil feel ko mas kaya ko silang iportray dahil malapit sila sa sarili ko. • Dapat malapit sa character mo, kung ano ung ugali mo para hindi mahirap iportray. • Pag nakikita ko yung sarili ko sa kanila. (7)	Typical

Financial	• By budget. • Yung di gaanong kailangan ng wig tapos madaling iportray. • Kase hindi naman pwede na magpapatahi ka tapos bigla kang titigil kase hindi mo na kaya. • Yung available na kaya ng budget ko. (5)	Variant
Popularity of Character	• Depende sa mga napapanuod kong animes. • Depende sa preference ng mga nasa paligid ko. Mahirap kasing magcosplay ng character na di kilala ng audience ko. (3)	Variant

In Table 2.1, seven of the informants the characters whom they love and idolize when it comes to cosplaying. They Cosplay their favorite characters for they love and adore them. On the other hand, another seven informants stated that personality is the first thing they consider when choosing what character to cosplay. They prefer the characters whom they see themselves and who has a personality like theirs. Budget is another factor that some of the cosplayers think through. Five have said that they prefer cosplaying the characters whose costumes are not costly and are available at present. And lastly, few of them choose their character according to what is within the trend and being watched by those who are around them for they think that fans could easily appreciate and recognize their character ifr they choose the popular characters to cosplay.

Table 2.2 Self – Presentation of Cosplayers in a Real – World Setting

Domain	Catergory	Frequency
Cosplay as a Hobby	• Hobby sya para sa akin. Kasi dun ko nilalagay yung passion ko sa drawing at photographs. • Hobby sya at part din as a fullfillment of dreams. • Kase ang cosplay para sa ken, there's a time and place for cosplay. Hindi ikaw si Myrtle na kailangan araw araw nakacostume ka palage. • Para sakin hindi. Kase makikita mo naman un sa dedication ng cosplayer e. And usually lumalabas un through photographs. Dun mo makikita kung true coser sya or not. • Ung aken kase more of a hobby lang, pag may event andun kame. (11)	General
Cosplay as a Lifestyle	• Lifestyle. Kasi iba yung buhay ng cosplay sa buhay natin ngayon kaya parang lifestyle na din sya.	General

- lifestyle? Hmm.. Oo, meron kasing mga tao na continuing cosplay kahit normal life. Na parang part of their fashion sense na din.
- Parang naapektuhan na rin nya ung kung paano ako manumit so lifestyle na rin.
- There's some aspects of cosplay na iniintegrate ko minsan sa style ko base on the way I dress. (10)

Generally, Cosplayers take Cosplay as a hobby. It is where they place and express their passion in drawing and photography. They even see it as a fulfillment of their dreams for they see their favorite characters in front of them and also gives them a chance to do cosplay on their favorite and dreamed character. Moreover, Ten of the informants, as seen in Table 2.2, see Cosplay as a lifestyle for they intigrate it also on how they present themselves on their day-to-day living.

Table 3.1 Correlation between Cosplayer's Self – Presentation and Cosplay

Variable	1	2
COSPLAYER'S		
1. Self - Presentation	1	.251[*]
2. Cosplay	.251[*]	1

*Note: *Correlation significant at the 0.05 level (2 tailed)*

Table 3.1 shows that Cosplayer's Self – Presentation and Cosplay hav a significant correlation at the 0.05 level (2 tailed). As the number of times of the cosplayer cosplayed increases their level of self – monitoring decreases, meaning, they present themselves whether in a fan group or in a real – world setting, through the way they wanted to and do not mind what others may say.

Lastly, as seen in Table 1.1 and 1.2, the participants express themselves whether in a fan group or in the real-world setting through the way they wanted to. They seldom put other's preference first. They do and live their passion uniquely and according to how they desired it to be.

Discussion

This study examined the influence of cosplay on selected cosplayers' self-presentation in and outside a cosplay community.

Mark Snyder's Self-Monitoring Scale was used to measure the cosplayer's or the participant's extent to which they consciously employ their impression management strategies in social interactions like being a cosplayer in a fan community or cosplay community and being an ordinary person in the real world setting. Researchers concluded that the higher the number of the characters they have cosplayed, the lower their level of self – monitoring. They even resolved that Cosplayers self – presentation

in a fan group somehow differs with how they present themselves in a real – world setting. Most of them express themselves and their passion in a fan group rather than in a real – world setting. in addition to that, the researchers have defined a positive correlation between Cosplayers' Self – Presentation and Cosplay at the 0.05 level (2 tailed).

The researchers even established the factors that affect how their respondents present themselves in a fan group and in a real – world setting. Their respondents usually present themselves the way they want to and seldom have they taken the preference of the people around them. And all of these support the Uses and Gratification of Katz and Blumer.

The researchers suggests the future examiners (1) to use another type of questionnaire to thoroughly measure the cosplayer's self – presentation, (2) to have an observation list to see how life goes in a fan group, and (3) to study a greater number of respondents.

Authors Note

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References

Babbie, E. R., (2012) *"The Practice of Social Research",* P.191, Date Retrieved, February 7, 2013, http://books.google.com.ph/books?id=kaza3qSULoC&pg=PA191&dq=snowball+sampling&hl=en&sa=X&ei=vcMTUYK2AYniAeOn4HIBQ&ved=0CDMQ6AEwAQ#v=onepage&q=snowball%20sampling&f=false

Bazarova, N. N., Taft, J. G., Chio, Y. H., & Cosley, D. (2012). Managing Impressions and Relationships on Facebook: Self- Presentational and Relational Concerns Revealed Through the Analysis of Language Style. Journal of Language and Social Psychology

Bonnichsen, H. (2011) *"Cosplay – Creating, or playing identities?"* Stockholm University, Date Retrieved: February 5, 2013, http://www.google.com.ph/url?sa=t&rct=j&q=thesis%20on%20selfpresentation%20in%20cosplay&source=web&cd=2&cad=rja&ved=0CDEQFjAB&url=http%3A%2F%2Fsu.divaportal.org%2Fsmash%2Fget%2Fdiva2%3A424833%2FFULLTEXT01&ei=tL0TUbHQLKXniAf3gIH4DA&usg=AFQjCNFSaYldvnsrDnvX-malPl9pe8SaNg&bvm=bv.42080656,d.aGc

Chandler, Daniel (1994) "Why do People Watch Television?", Date Retrieved: March 11, 2013, http://www.aber.ac.uk/media/Documents/short/usegrat.html

Chen, H. (2011). The significance of manga in the identity-construction of young American adults: A Lacanian approach (Doctoral dissertation). Retrieved from Proquest Dissertations & Theses Database. (3441397)

Corliss, R. (2008). Sci-fi's no. 1 fanboy, Forrest J Ackerman, Dies at 92.Time Magazine. Date Retrieved: January 17, 2013, http://www.time.com/time/magazine/article/0,9171,1865977,00.html

Courtney, S. (2010). "Cosplay: The Sincerest Form of Flattery ", Date Retrieved: January 15, 2013, http://www.guardian.co.uk/commentisfree/2010/aug/18/cosplay-the-sincerest-form-of-flattery

Duck, S. (2007). Human relationships. Sage Publications Ltd.

Facebook. (2012). One billion people on Facebook, Date Retrieved: January 27, 2013, http://newsroom.fb.com/News/457/One-BillionPeople-on-Facebook

Flynn, Francis J. Reagans, R. E., Amanatullah, E. T., & Ames, D. R. (2006). Helping one's way to the top: self-monitors achieve status by helping others and knowing who helps whom. Journal of Personality and Individual Differences, 91(6), 1123-1137. doi: 10.1037/0022-3514.91.6.1123

Goffman, E. (1959), *The Presentation of Self in Everyday Life,New York: Doubleday*. Date Retrieved, February 7, 2013, http://clockwatching.net/~jimmy/eng101/articles/goffman_intro.pdf

Gunnels, J. (2009). 'A Jedi like my father before me": Social identity and the New York Comic Con'. *Transformative Works and Cultures* (3). Electronic version: http://journal.transformativeworks.org/index.php/twc/article/view/161/110

He, A. (2012) Being Another…Cosplay Interactive Experience, *The Meanings and Trends of Cosplay, and An Innovative Way of Expressing Ideas – the Concept and Prototypes ,* Date retrieved: January 15, 2013, http://aprilhe.com/imgs/project/mfathesis/CCA_MFA_Thesis_2012_AprilShuyaHe_B eingAnother.pdf

Ickes, W., & Barnes, R. D. (1977). The role of sex and self-monitoring in unstructured dyadic interactions. Journal of Personality and Social Psychology, 35(5), 315-330. doi:10.1037//0022-3514.35.5.315 Date Retrieved: February 5, 2013

Jenkins, H. 2010. "The Night of a Thousand Wizards." *Confessions of an Aca-Fan,* Date Retrieved: January 15, 2013. http://henryjenkins.org/2010/07/fear_and_loathing_in_hogworts.html

Kleine, S. S., Robert E. Kleine, III, and Allen, C. T. (1995), *"How Is a Possession 'Me' or 'Not Me'? Characterizing Types of Possession Attachments*," Date Retrieved: January 27, 2013, http://www.gentleye.com/research/cb/pubs/1995_KKA_JCR.pdf

Lamerichs, N. 2011. "Stranger than Fiction: Fan Identity in Cosplay." *Transformative Works and Cultures,* no. 7. doi:10.3983/twc.2011.0246

Leigh, Cynthia (2007) 'Cosplay Models: Real Life Japanime Characters'. *Helium.* Date retrieved: January 15, 2013,http://www.helium.com/items/207818-cosplay-models-real-life-japanime-characters

Lundy, J.N. (2010). Still flying: The communicative constitution of browncoat fandom as culture. (MA Thesis). Retrieved from Boise State University ScholarWorks. (723158281) Lundy, J.N. (2010). Still flying: The communicative constitution of browncoat fandom as culture. (MA Thesis). Retrieved from Boise State University ScholarWorks. (723158281) Date retrieved: January 25, 2013

Nagaike, K 2012. Fantasies of Cross-dressing: Japanese Women Write Male-Male Erotica, Boston: Brill'sAcademic Press.

Patten, F. "A Capsule History of Anime", Date Retrieved: February 6, 2013. http://www.awn.com/mag/issue1.5/articles/patten1.5.html.

Pearce, C. 2009. *Communities of Play: Emergent Cultures in Multiplayer Games and Virtual Worlds.* Cambridge, MA: MIT Press.

Pink, D. H. (2007) "Japan, Ink: Inside the Manga Industrial Complex." Wired Magazine online, Date Retrieved: February, 6 2013, http://www.wired.com/techbiz/media/magazine/15-11/ff_manga?currentPage=all 10/22/07

Raquedan, M. & Sto. Domingo, R. (2010). C(ause)splay: A Study on How Animes Affect the Self-presentation of Anime Fans Inside and Outside a Fan Community, Unpublished Undergraduate Thesis, University of the Philippines College of Mass Communication. Date Retrieved: January 11, 2013, http://iskwiki.upd.edu.ph/index.php/C%28AUSE%29SPLAY:_A_STUDY_ON_HO W_ANIMES_AFFECT_THE_SELF-PRESENTATION_OF_ANIME_FANS_INSIDE_AND_OUTSIDE_A_FAN_COM MUNITY

Ross, P. (2008, June 1). At large: DIY Star Trek episodes are the final frontier for intrepid fans. Scotland on Sunday, p. 16.

Syndler, M. (1974), Self-Monitoring Scale, Date Retrieved: January 27, 2013, http://www.cabrillo.edu/~jtice/Psychology%2033/Assignments/Journal%20Assignme nt%20Spring%202010/Self%20Monitoring%20Scale.PDF

Snyder, M. & Gangestad, S. (1982). Choosing social situations: two investigations of self-monitoring processes. Journal of Personality and Social Psychology, 43(1), 123-135. doi: 10.1037/0022-3514.43.1.123

Taylor, J. (2009). Convention cosplay : subversive potential in anime fandom, Date Retrieved: January 15, 2013, https://circle.ubc.ca/handle/2429/7116

Turnley, W. H., & Bolino, M. C. (2001). Achieving desired images while avoiding undesired images: exploring the role of self-monitoring in impression management. Journal of Applied Psychology, 86(2), 351-360. doi: 10.1037//0021-9010.86.2.351 Date Retrieved: February 5, 2013.

Wakefield, S. R., (2010) "Self Presentation Online: An Analysis of Mom Blogs", Date Retrieved, January 25, 2013, http://www.suu.edu/hss/comm/masters/Capstone/Thesis/Wakefield_S-R.pdf

Winge, Theresa. (2006) "Costuming the Imagination: Origins of Anime and Manga Cosplay." Mechademia: Emerging Worlds of Anime and Manga. Lunning, Frenchy (editor). Minneapolis, MN. University of Minnesota Press. 2006. Date retrieved: February 6, 2013

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Appendices

Appendix A

Consent Form

I agree to take part in a research study titled *"A Phenomenological Study on How Cosplay Affects the Self-presentation of Cosplayers in and outside the Cosplay Community"* which is being conducted by Dior Grita De Torres and Roma Angelica Victoriano of the Lyceum of the Philippines University-Batangas under the direction of Professor Miriam Grace Aquino-Malabanan of College of Education Arts and Sciences. I understand that I do not have to take part in this study, and I can stop taking part at any time without giving any reason, and without penalty. I can ask to have information related to me returned to me, removed from the research records, or destroyed. The purpose of this study is to test How Cosplay Affects the Self-presentation of Cosplayers.

In order to make this study a valid one, some information about my participation will be withheld until after the study. Again if I am uncomfortable with what I see during the course of this experiment, I understand that I can stop taking part at any time without giving any reason, and without penalty. I understand that any information which could personally be connected to me will be kept confidential and not shared with anyone outside the research group. This personal information can only be released with my permission. If information about me is published, it will be written in a way that I cannot be recognized. However, research records may be obtained by court order. The researcher will answer any further questions about the research, after the experiment proper. I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Dior Grita F. De Torres
Roma Angelica P. Victoriano
Researchers

Noted By:

_____

Prof. Miriam Grace Aquino-
Malabanan

_____
Signature of Participant/ Date

Demographic Profile
Name:_____
Age:_____
Gender:_____
Number of Cosplay Conventions attended: _____
Number of Cosplayed Characters: _____
Year when you started Cosplaying: _____

Appendix B

Self-Monitoring Scale

DIRECTIONS:

The statements below concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. IF a statement is TRUE or MOSTLY TRUE as applied to you, shade the "T" next to the question. If a statement is FALSE or NOT USUALLY TRUE as applied to you, shade the "F" next to the question.

(T) (F) 1. I find it hard to imitate the behavior of other people.
(T) (F) 2. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.
(T) (F) 3. At parties and social gatherings, I do not attempt to do or say things that others will like.
(T) (F) 4. I can only argue for ideas which I already believe.
(T) (F) 5. I can make impromptu speeches even on topics about which I have almost no information.
(T) (F) 6. I guess I put on a show to impress or entertain people.
(T) (F) 7. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.
(T) (F) 8. I would probably make a good actor.
(T) (F) 9. I rarely seek the advice of my friends to choose movies, books, or music.
(T) (F) 10. I sometimes appear to others to be experiencing deeper emotions than I actually am.
(T) (F) 11. I laugh more when I watch a comedy with others than when alone.
(T) (F) 12. In groups of people, I am rarely the center of attention.
(T) (F) 13. In different situations and with different people, I often act like very different persons.
(T) (F) 14. I am not particularly good at making other people like me.
(T) (F) 15. Even if I am not enjoying myself, I often pretend to be having a good time.
(T) (F) 16. I'm not always the person I appear to be.
(T) (F) 17. I would not change my opinions (or the way I do things) in order to please someone else or win their favor.
(T) (F) 18. I have considered being an entertainer.
(T) (F) 19. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
(T) (F) 20. I have never been good at games like charades or improvisational acting.
(T) (F) 21. I have trouble changing my behavior to suit different people and different situations.
(T) (F) 22. At a party, I let others keep the jokes and stories going.
(T) (F) 23. I feel a bit awkward in company and do not show up quite as well as I should.
(T) (F) 24. I can look anyone in the eye and tell a lie with a straight face (if for a right end).
(T) (F) 25. I may deceive people by being friendly when I really dislike them.

Appendix C

Jenshin's Cosplay Questionnaire

This is a questionnaire formulated to measure your qualities as a cosplayer. Please mark your chosen answer.

1. Do you consider yourself a 'fan' of something?
    Yes   No
2. Do you feel that you relate better to people who are fans in comparison to general people?
    Yes   No
3. Are your friends' fans?
    Yes   No
4. Do you watch anime at all?
    Yes   No
5. Do you find yourself able to sympathize and relate to characters in anime, video games or live action?
    Yes   No
6. Have you ever had someone start a conversation with you because of something the person saw you wearing?
    Yes   No
7. Have you ever started a conversation with someone because of something you saw that person wearing?
    Yes   No
8. Do you role play?
    Yes   No
9. Do you consider yourself an artist?
    Yes   No
10. Do you like crafting with your hands?
    Yes   No
11. Do you like to sew?
    Yes   No
12. Do you feel that it is rare for someone to share your interests?
    Yes   No

13. Is it rare for people among the general public to have your same interests?
    Yes   No
14. Do you get excited when you find someone who thinks like you?
    Yes   No
15. Have you ever met someone you relate to by going to some kind of convention or event?
    Yes   No
16. Is an event or convention is a valid medium for finding friends?
    Yes   No
17. Is the internet a valid medium for finding friends?
    Yes   No
18. Can you speak any Japanese?
    Yes   No
19. Do you find yourself wishing a character was real?
    Yes   No

20.   Would you date a character if he or she were real?
      Yes   No
21.   Do you make comparisons between made up characters and real life people or
      situations?
      Yes   No
22.   Do you make up new stories about characters from movies/anime?
      Yes   No
23.   Is the word Fangirl or Fanboy a negative label?
      Yes   No
24.   Do you remember an author's name more often than a character's name?
      Yes   No
25.   Do you enjoy anime and/or manga?
      Yes   No
26.   Do you consider yourself a geek/dork/nerd?
      Yes   No

Appendix D

Self-Monitoring Scoring Scale

1. False	6. True	11. True	16. True	21. False
2. False	7. True	12. False	17. False	22. False
3. False	8. True	13. True	18. True	23. False
4. False	9. False	14. False	19. True	24. True
5. True	10. True	15. True	20. False	25. True

Appendix E

Interview Guide

1. Do you know any Japanese? Manga and cosplay are of course originally Japanese phenomena. Do you connect it to something especially Japanese still?
2. How, when and why did you get interested in cosplay?
3. Is cosplay a lifestyle for you, in the same way as it is for people who are interested in cosplay?
4. Do you attend conventions? Can you describe what makes conventions interesting for you? How did you get to attend a convention for the first time?
5. How do you choose who you want to cosplay as? Why do you choose a specific character? Do you identify with the character you choose?
6. Do you think that there are differences between cosplay and other styles of dressing up?
7. Who is your cosplay idol?
8. Do you feel as though you are a part of a group since you are interested in cosplay? How does it feel to be a part of an activity as cosplay with other fans?
9. If you were given a chance to make a permanent cosplay codename, what would it be and why?
10. What are the unique behaviors or characteristics of a cosplayer?

Appendix F

Review of Literature

Definition of Cosplay

Bainbridge and Norris (2009) described the Japanese term cosplay (コスプレ, kosupure) as a contraction of the English words 'costume' and 'play' and refers to the taking on of a particular character from manga (comic), anime (animation), movie, game or (less frequently) other media from Japan.

According to Lamerchis (2009), cosplaying is a form of appropriation that transforms, performs and actualizes an existing story in close connection to the fan community and the fan's own identity.

Celia Pearce (2009) published a book on online fan cultures of Uru and the types of play they engage in. There is certainly a good reason to view fan practices as play. They are unproductive in that they gain no obvious financial profit from this and that the activity itself is central. Though insightful, theories on play tend should always by nuanced to more specific modes of play. She used two notions to theorize cosplaying: transformative play and imaginative play, which is elaborated upon by the notion of performance. First, cosplaying can be defined as a type of play that changes the context of existing fiction, such as a videogame. In a narrow sense transformative play refers to play that alters the rules of the game that generates emergence (Salen and Zimmerman, 2004, 305). As she rightly notes, play inspires other playful activities, such as making figurines, hosting events or indeed, designing costumes. Reception here entwines with production or creative game play. "Play can become an engine for a high level of creativity and innovation, which can take a variety of forms through both leveraging and subverting software affordances". What is established in a media text such as a video game is now played out through a costume.

Second, cosplaying is an example of imaginative play (Sutton-Smith, 1997): play of make-belief, pretend, also described in Caillois' (1961) typology of play as mimicry. This type of play involves adopting or mimicking other roles, usually in a distinct play setting such as a theater, a children's playground, a role-playing setting or indeed, a fan convention.

Davis (2008) said that cosplay allows a temporary change in identity and allows fans to experiment with other personalities or to just be more assertive than usual. Along with this, the positive reinforcement of thousands of other fans at conventions, makes cosplay a popular pastime for anime fans. Cosplaying is a very social activity; the encouragement of other fans at the masquerade or just having their picture taken adds to a cosplayer's sense of character. At times the cosplayer will roleplay as the character they dressed up as and will often approach other people with costumes from the same anime series to either chat or to act more like their chosen character.

In cosplaying, there is a mutual exchange between the player and fiction. In this sense, the relation between players and characters is similar to that between gamers and their characters. Game theories often stress that the avatar—the main playable character in a game—is not just a protagonist that can be read, but also an enabling

character that the player controls. The character-player relationship has been described by De Mul (2005) as "ludic identity" and by Gee (2007) as "projective identity." Both concepts highlight that a player establishes his or her own identity while interacting with a game and its avatar. This interaction also shapes our interpretation of the fictional material. In cosplay, a similar thing happens. Players identify in multiple ways with the characters they portray. Some relations may be very personal while others more general.

In addition to this, Aoyama and Cahill (2003) defined Cosplay primarily as a social activity associated with various activities and conventions, where cosplayers gather to share their passions for anime and manga characters. While the social settings for cosplay may vary greatly, conventions are often the primary space where large numbers of cosplayers gather, socialize and perform.

On the other hand, Eastman (2005) stated that "cosplayers are a unique group of people who choose to dress in costumes of characters in hopes of finding a community that will recognize their membership of a fandom". This leads to bonding and friendship between cosplayers and other enthusiasts who share the same interests.

Fandom

In late 2007, a book by Susan Napier was published to cover how Japan has been seen through the eyes of the West since the country was opened to European and American influence. She has extensive sections on anime fandom including information on the commonalities among fans she interviewed. The commonalities Napier described are mostly generic attributes, like a love of reading and greater interest in different cultures. However, Napier then delves into what anime fandom means to fans. To her, the most important parts of fandom are its interactivity and what she calls "subcultural capital" (2007: 150). Subcultural capital, as Napier explains, is how a fan's knowledge (either of anime fan conventions, anime trivia, or Japan) allows a fan to gain status within the fandom. Both interactivity and subcultural capital engages fans and further encourages participation in the fandom.

Moreover, the U.S. anime fan community is a primary example of this phenomenon. Experts largely consider anime to be a niche market in the United States, yet the members of the market make up in enthusiasm for what they lack in numbers. Though collegiate anime clubs have been a mainstay of U.S. anime fandom since its earliest days, the Internet has emboldened the anime fan community, who use the Internet's capacities to put otherwise geographically disparate fans into a state of constant connectedness. These factors have contributed to the growth of a phenomenon that subverts the traditional means of entertainment media consumption. Anime fandom has engendered a decentralized, non-commercial anime distribution network that in turn spurs demand for imported entertainment media that is considerably removed from the mainstream in terms of content and corporatized distribution. This phenomenon has implications for academic study of marginalized subcultures in an age of digitized social relations. The Internet allows these subcultures more flexibility to assert autonomy within a media context that would otherwise be more limiting.

The phenomenon of anime fandom in the United State had begun with the release of the first full-length anime series worldwide, Tetsuwan Atomu, or Astro Boy as was known in the U.S. in the mid-1960s (Napier 2001), and Speed Racer during that same period. Few Americans had known that they originally came in Japan since their U.S. releases were dubbed in English. Series such as Lupin III and Mobile Suit Gundam gained popularity in the U.S. in the 1970s and by the early 1980s, anime accounted for 56% of all Japanese television exports (Stronach, 1989), most of which had been exported to the United States.

Organized fandom gradually developed in the late 1980s, when the first Usenet newsgroup devoted to anime, rec. arts. anime appeared in 1988 and when anime fan conventions began appearing in the United States in the late 1980s which were separate from more traditional science fiction conventions.

Academic acknowledgement of anime fandom began in roughly the same period with the first ever conference on Japanese Popular Culture held in 1989 (Napier 2001), and has received steady but little attention by the academy ever since. However, the examination of general U.S. media fandom published in 1992 entitled "Henry Jenkins' Textual Poachers" remains an influential text for scholars who wish to examine anime fan subculture.

Self-Presentation

The art of self-presentation is both a manipulation of signs (Wiley 1994) and an embodied representation and experience (Brewer 1998) to impart identity. Goffman (1959) asserts that the presentation of self is contextual, based on a specific setting and facing a definable and anticipated audience.

Leary (1996) explained Self-Presentation as the process by which people convey to others that they are a certain kind of person or possess certain characteristics. More specifically, self-presentation is a kind of impression management, which is the management of others' impressions of a social unit such as people or organizations.

In addition to this, Self-presentation was described as the "self" people presented to others. Based on Goffman (1959), the "dramaturgical approach" was stressed that people's daily self-presentation was like stage acting. In other words, self-presentation was the present of self that individuals tended to perform intentionally and desired to be seen by others. The perception by others was to be controlled was called self-presentation (Leary and Kowalski 1990). People were found to act intentionally with the awareness of the self in order to convey an optimal image in front of others. Hence, people would act differently according to different situations (Vohs, et al.2005). There were various kinds of self-presentation in different ways of classification. Leary (1996) introduced several self-presentation tactics in everyday life such as self-descriptions, attitude statements, nonverbal behaviors, social associations, conformity and compliance, aggression and risk-taking. These tactics were involved in direct and subtle self-presentation, which aimed at conveying impressions of an individual to others. Apart from Leary (1996), five strategies including ingratiation, competence (self-promotion), intimidation, supplication and exemplification were identified by Jones (1990) for face-to-face interaction in early study.

Influence of Nonverbal Component on Credibility Assessment in High Stakes Situations

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Abstract

Current state of research on facial cues of deception provided unsatisfying generalizations based on the implementation of outdated technical equipment that was used to collect data. With the help of high-speed cameras and knowledge from computer vision field, we have revisited the topic in a series of experiments aimed to determine the role of stress and cognitive load in detecting cues of deceit. By the means of three experimental modules we were able to collect large sample of data that generated results easy to relate to broader sample. Our experimental plan was uniquely constructed in such way, that it allowed high level of immersion and produced results similar in all aspects to real life behavior. Data was then analyzed using qualitative techniques and interesting observations were made. We were able to establish that although, there is no support for claims about global cues of deception present in each liar testimony, there are groups of cues specific for particular persons. This lead us to conclusion about the existence of individual lie patterns.

Keywords: Cues of deception, interpersonal communication, emotion detection, computer vision.

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Brief history of deceit detection research.

Detecting deceit and deception has long history of being center of attention for investigative psychologist. The scope of it usefulness for the practice of police operations is beyond doubt, and it has great backing in research activity undertaken by the police force itself. The ability to tell if a suspect is lying is crucial to the swift resolve of a case, as well as to the amount of resources that have to be dedicated for it to be successful. From pure economic point of view the faster we can tell someone is not honest in his statements, the less it will cost us to mitigate the expenses that he generated for our system, be it private sector firm or government institution[1]. In interpersonal relationships we are always and constantly assessing the credibility of our interlocutor due to the simple fact that acting under false assumptions wastes our resources and makes us unhappy. While doing this, people use various techniques for succeeding, some of them are conscious choices and stem from knowledge or believes, some are working automatically and are tied to our cognitive heuristics[2].

The importance of lie detection was first acknowledged long ago and multitude of research was carried out on the subject in different places and different cultures[3]. Meta-analysis shows that very few of the actual research outcomes seem to form coherent picture of what exactly is needed to build educated guess about the credibility of someone's statement[4]. In recent years, the topic lost much of its impact due to some problems with study design philosophy. Experiments – as they are the only possible form of accurately measuring the problem, have suffered from too little innovation and too much replication. A general consensus was reached, that it is very hard – or maybe even impossible to rule some part of persons declaration as truthful based solely on nonverbal cues. However, the sheer amount of pressure from institutions that need credibility assessment – such as banks and other commercial services providers, proved to be enough to keep the work going and scientist involved.

Another trend responsible for this state was the rising in willingness to cooperate showed by the police force. Therefore, we undertook our research endeavor in state in which few proven facts exist and there is more to be learned than there is known for certain. We knew that with our resources we could contribute to the field and make impact with well designed research study.

Research study design

In our research endeavor we used technical equipment of highest standards and interdisciplinary team of experts to resolve questions tied to one aspect of assessing credibility of someone statements. We focused on nonverbal cues tied with facial activity that is one of the most commonly referred to group of predictors. This is not new field of study, as much work was done by visionary scientists from different countries.

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[1] Gneezy, U. (2005). Deception: the role of consequences. American Economic Review 95, s:384–394

[2] C. M. Hurley, D. J. Griffin, M. A. Stefanone, (2014). Who Told You That? Uncovering the Source of Believed Cues to Deception. International Journal of Psychological Studies, 6, 1

[3] Bond, C. F., Omar, A., Mahmoud, A., Bonser, R. N. (1990). Lie detection across cultures. Journal of Nonverbal Behavior, 14, s:189-204.

[4] Vrij, A. (2008). Detecting lies and deceit. Chichester: John Wiley & Sons Ltd.

However, we had strong impression that a lot of scientific experiments carried out in this field, are not immersive enough to procure the level of stress and cognitive load that is experienced by people in natural conditions. The procedures were simple and elegant but lacked real life feel needed, in our opinion, to produce close to life behavior of tested subjects. With lie detection – as lie is so automatic and natural to all people - the procedure of the experiment is crucial in providing results that can be generalized beyond the laboratory conditions. Also for us the most important part was the ability to scale the level of cognitive overload and stress in different experimental modules.

We felt that previously mentioned paradigm shift signaled by Vrij, Granhag and Porter[5] is in fact viable research direction that needs to be incorporated in every experimental plan built in this problem horizon. We also determined that we need to make our study modular in order to rise it cross cultural value – some modules are harder to replicate, but the first one can be carried out without any problem in almost any academic environment.

The first two experimental modules were designed as a coherent wholeness. The legend we created was about an alleged person with telepathic skills, that has agreed to be tested in proper scientific laboratory setting. The participants were deceived about their role in the process. They were told, that they will be researchers helpers in first ever attempt to establish the viability of someone's mind reading ability claims. This legend has a few fundamental strengths, worth mentioning at this stage. The first and most important one is the high immersion factor. The new paradigm that we try to promote in our research is based on the assumption that if we want the results to mirror the real behavior of a person, we must create experiments that enforce real life behavior. Although we acknowledge that some students could think that this is some kind of a ruse and the telepath is a fraud, they have concentrated on this so much that true nature of deception remained unknown to them for the whole 2 modules. They were very interested and curious about the whole situation and this genuine attitude contributed to the realistic behavior during experiments.

It needs to be stressed that students taking part in first two modules were from technological fields of study. This gave us skeptics that wanted to see the telepath fail and proves their perspective of what is possible and what isn't. The information they were given was that in order to check the viability of the telepath claims a test from the field of parapsychology needs to be undertaken. The classic measure of telepathic abilities is called Zener Card Test. It is administrated by usage of five different cards. The symbol on the cards show figures: circle, cross, square, star and waves. To check the telepathy, one person looks at the top card and the telepath tries to connect to his mind and perceive the shape. We informed the participants – that they will be researchers helpers, and that the telepath needs a confirmation that a person is thinking about the card that he or she sees, he will ask question about it. To rule out the possibility of telepath attunement to persons reaction, we also told them that based on the instructions only, they will see besides the shown Zener card they will have to tell the truth about telepath choice or they will have to lie to him.

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[5] Vrij, A., Granhag, P.A., Porter, S. (2010). Pitfalls and Opportunities in Nonverbal and Verbal Lie Detection. Psychological Science in the Public Interest. 11,3 s:89–121

We modified the original procedure and used the computerized version of the test with this key addition, that was needed for our research goal to be achieved. In this module we also stated that cameras are needed to document the whole thing and to make it clear for the persons that will be reviewing it, that the telepath didn't receive any "help" from researchers or the persons that were helping us. So we used 2 cameras – one pointed at the telepath and one at the student that was being examined. The whole experiment was designed to carry minimal level of stress and cognitive load. The research helper angle provided reduced stress generation as students didn't feel like they were the center of attention and cognitive load was present only during certain type of questions.

There were four general types of possible scenarios for a student to answer to: the first one occurred when telepath has guessed the figure shown on screen visible on to the student on the computer monitor and there was word "truth" beside the figure. Then the student was instructed to truthfully confirm the telepath guess telling him that the figure on the screen is indeed what he guessed. This carried no stress and no cognitive overload whatsoever. In the opposite scenario – when the telepath made a mistake in guessing the figure but the word beside it was still "truth", the participant was instructed to tell the telepath about his mistake and provide him with the right answer. Once again this carried no cognitive overload or stress. The 2 other alternatives scaled those two factors.

If telepath made a mistake but the word beside the figure was "false" the student was instructed to lie by confirming the telepath mistake. In this version some amount of stress could be present as he was in fact lying about a thing he sees before his very eyes. The important thing was that there was no cognitive overload in this example also. The most interesting version of the experimental question was the one when telepath was right but the word beside the figure was "false". Then the participant was instructed not only to lie and tell the telepath was wrong but also to say what figure is on the screen at the moment. Obviously he was supposed to choose quickly one of the Zener cards and say its name but this was designed so it provides only the smallest amount of cognitive overload. Interesting fact is, that although the telepath always used the same sequence of cards during the 10 trials, in the whole group of 111 students no one noticed this and also although the telepath was right always the same amount of times students counted this wrong and didn't notice that for the whole duration of experimental procedure.

The follow up experiment was organized in the second experimental module. We informed our participants that the telepath showed remarkable results of over 75 percent right answers, and that we want to test if he only can guess figures right or does his skills allow him for deeper, more complicated things to be read from subjects mind. In order to check this, we designed a series of questions for each participants and provided them with option of continuing the experiment. If they did, they had a chance to win prizes based on the level of their ability to deceive the telepath. We told them that if they can achieve good results in lying to the telepath, they will be rewarded with electronic prizes. The participation was voluntary, and as we expected when the experiment was formed so the deeper contextual knowledge about the person would put some people off participation. Overall test group was reduced to 63 observations.

The information that participants were supposed to hide from the telepath were general parameters, such as birthplace or mothers name, and more elaborate ones like views about certain moral subjects like capital punishment. Telepath was given a choice of 3 possible choices on each question and had to make a educated guess based on conversation with the participant.

We used the reasoning that the telepath needs the conversation part to invoke the images and thoughts into subjects mind. This design provided us with few useful states. The main reason behind such construction of this experimental module was the higher immersion than the first one – as we were asking about personal details, albeit non sensitive but still connected to the self, and thus more involving. Participants had to lie efficiently in order to acquire high score. This module was harder and involved a lot more of commitment from research team as all dialogues had to be transcribed and categorized into truth and lies sections. The one thing that we got from this instantly, was the suggestion that there can be something interesting in a way individual lie. Up to this time part of other researcher scientific efforts concentrated on finding the common denominator between all lies – our research with two times subjecting same participants to testing in different modules, shows that interesting approach would be to look for individual lie pattern. Something characteristically for a person – almost like fingerprint, that if recognized and learned could help to determine if he lies or not in specific situation. We will elaborate more on this subject in conclusion to this article.

The third experimental module was the toughest one to prepare and carry out. We were able to secure cooperation with Silesian Police Academy in Katowice to make use of the simulation system implemented in basic training. Each future police officer undergoes rigorous training involving both study of knowledge and physical activity exercises. One of the training forms is a combination of mental and physical exercise called simulation. It can be carried out at any time without any notice from the school stuff to provide element of surprise and raise the level of stress involved in overcoming the task. Strong accent is put on high realism in such simulations as they are the best way to prepare officers for real life situations that successful and quick solving will be their job in years to come. A plan has taken shape for showing police cadets how it feels to be interrogated. Police School stuff were convinced that if they will be in such situation themselves they will be better at interrogating suspects in the future. The experiment took place during such simulation. Cadets have been put in situation where during important knowledge test one of the faculty members that have been administrating the test had to go out for a moment and one that remained started to give the answers to test questions.

Cadets are taught that if something like this occurs – an blunt and obvious breach of police ethics, they are responsible for reporting it to the higher rank officers and overseers. The failure in doing so could result in the most serious of disciplinary action up to removal from the Police Academy altogether. As it can be understood the level of stress in this measurement was very high - although it needs to be said here that police cadets are selected with stress tolerance in mind so this could be the study limiting factor. The research crew was guised under the pretence of internal affairs unit delegated to help with solving the case of better than average test result and possible misconduct related to it. Cadets were interrogated by seasoned police veterans with FBI course experience and many years of fieldwork.

This gave us unique opportunity to register material that is as close to real life situation as possible in controlled conditions. Without a doubt this module was the most empirical generative of all 3 and some crucial observations were undertaken during analysis of this material.

Research material analysis

All the collected data was first looked through in search of some technical flaws and then interoperated in qualitative way by psychologist. The one interesting fact is that even though recordings from module one that had no stress factor and little to non cognitive load, they have proven to contain some obvious examples of cues of cognitive load related to the task of transforming one figure into another in a process of giving the telepath his feedback. This may show that cognitive load has in fact more potential in lie detection than we assumed before. Also it provides support for recent shift in the priorities[6] during experiments with cues of deception. Second module using same participants, showed some interesting support to the thesis about individual lie pattern.

Although if thinking rational about it, it's not a big surprise. If we assume that people talk differently, have particular preferences in characteristics like poise, walk and even preferred sitting positions, it's hard to understand lack of earlier research about individual lie patterns. Going further into this matter we could hypothesize about some link to such characteristics as temperament or other biological factors. Nevertheless police has received this information with great enthusiasm, as much of the real life usage of nonverbal cues of deception takes part during interrogations of certain people in certain situation about some certain fact. Police doesn't need to have power of universal cues that distinguish all liars from all truthful interrogated people – what they need is to have means of supporting them in answer about the possibility of this particular person is lying or not. The most informative module that gave multitude of leads for further research in this matter was module 3. We were able to establish categories of cues that are different in terms of dynamic, region of origin and easiness of observation.

Popular cue of deception – blinking turned out to have some interesting subtypes, such as reverse blinking – a cue that consist of winding the eye without closing it, we also found a lot of asymmetry examples not only in blinks themselves but changes in eye region. Some of them consist of specific movements of eyebrows – some of which are not possible to carry out voluntarily, some are very fast and short, and some are so small in the movement itself that without the help of high speed cameras they would not be possible to spot at all. The eye region provided us with all that we could hope for in terms of general number of cues as it is often the center of attention of other researchers experiments.

But the real surprise came from the nose and later mouth region. Nose region showed potential for recognizing signs of aggression and irritation. We have few very vivid expressions captured that involve muscles around the nose and cheeks that definitely correlate with periods of stress that could generate anger from the participants.

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[6] Vrij, A. Granhag, P.A. Mann, S. Leal, S. (2011). Outsmarting the Liars: Toward a Cognitive Lie Detection Approach. Current Directions in Psychological Science. 20,1, s:28-32

Anger was mostly directed inward or was the reaction to the situation itself and was by no means a form of communication pointed towards interrogator. This is consistent with even the oldest studies on the subject[7]. The last piece of useful observation was the role of mouth region. There were changes to mimic expressions in form of asymmetries, high speed movement of lips and even such bizarre details as lip corner involuntary movements. The mouth region was traditionally considered as being under control of pyramidal system, so it was less interesting to the researchers – our study shows that it cannot be ruled out when experiment is carried out with individual lie patterns in mind.

Conclusion

Although this study is not complete in presentation without the advanced algorithms that give quantitative data a meaningful representations, there are some broad conclusions that can be drawn based only on mentioned before qualitative analysis. First and foremost, comes the assertions that there is a need for more immersive experiments in the field of lie detection. Current endeavors concentrate on huge samples trading quality for quantity. Lie is such intimate activity that without at least basic level of involvement it is very hard to expect experiments to produce valuable data. In many different research areas laboratory experiments are the best way of gathering relevant material, but we think that in lie detection researchers must balance the quantity of the sample with quality of the experimental plan. When designing experiments in this problem horizon, we should always ask ourselves how broad our conclusions will be.

If we really want to ponder about cues of deception in real life interpersonal contact, we need to refrain from experiments that luck such interactions. The second obvious conclusion is the need for proper technical delivery of the research, psychologists alone are lacking in level of expertise involved in proper capturing and analyzing images, variables such as light, static distortions, resolution and other typical challenges can easily be overcome in cooperation with experts from the field of computer vision. At the very end we must name the one big discovery that stems from this study and would not be possible if before mentioned conclusions were not present in our study. Future research should concentrate not on only on quantity of the changes – such us blink rate or lip pressure rate, but also on the dynamics of mentioned changes – the speed of a blink – its dynamic profile is what should interest us.

Before our study this was never taken under account as without computer science experts it is not possible to carry out such complicated task as psychologist alone, but the result that you get using such approach by all means justify time and effort needed to build such interdisciplinary team of experts. In the future we will try to concentrate on cognitive load as the main factor in procuring interrogation techniques that help to elicit more facial and behavioral detection cues.

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[7] Ekman, P. (1992). Telling lies. New York: Norton

Such reasoning is in line with current trends in this field of study[8], and police practitioners find it very interesting and innovative. This creates opportunity for future mutually beneficial projects that enhance public safety and at the same time gives better understanding of basic human skills. It could be argued that in today's world with such great focus on trust in business and role of social capital the reasons and methods that people use people to deceive one another are crucial for all spheres of human functioning beginning with primary education and ending in macroeconomics, healthcare, public safety and general welfare. We hope there our study is a step in right direction on long road to understanding lie as a psychological phenomenon.

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[8] Vrij, A. Granhag, P.A. Mann, S. Leal, S. (2011). Outsmarting the Liars: Toward a Cognitive Lie Detection Approach. Current Directions in Psychological Science. 20,1, s:28-32

Acknowledgements

References

Bond, C. F., Omar, A., Mahmoud, A., Bonser, R. N. (1990). Lie detection across cultures. Journal of Nonverbal Behavior, 14, s:189-204.

C. M. Hurley, D. J. Griffin, M. A. Stefanone, (2014). Who Told You That? Uncovering the Source of Believed Cues to Deception. International Journal of Psychological Studies, 6, 1

Darwin, C. (1872). The expression of the emotions in man and animals. London: John Murray.

DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., Epstein, J. A. (1996). Lying in everyday life. Journal of Personality and Social Psychology, 70, s:979–995.

DePaulo, B. M., LeMay, C. S., Epstein, J. A. (1991). Effects of importance of success and expectations for success on effectiveness at deceiving. Personality and Social Psychology Bulletin, 17, s:14–24.

DePaulo, B. M., Lindsay, J. L., Malone, B. E., Muhlenbruck, L., Charlton, K., Cooper, H. (2003). Cues to deception. Psychological Bulletin, 129, s:74–118.

Ekman, P. (1992). *Telling lies.* New York: Norton.

Gneezy, U. (2005). Deception: the role of consequences. American Economic Review 95, s:384–394

Goffman, E. (2008). Człowiek w teatrze życia codziennego. Warszawa: Aletheia

Hartwig, M., Granhag, P. A., Strömwall, L. (2007). Guilty and innocent suspects strategies during interrogations. Psychology, Crime, & Law. 13, s:213–227.

J. K. Burgoon,, J. P. Blair, R.E. Strom, (2008). Cognitive Biases and Nonverbal Cue Availability in Detecting Deception .Human Communication Research 34. s:572–599

Mehrabian, A. (1971). Silent messages. Belmont, CA: Wadsworth.

Miller, G. R., Stiff, J. B. (1993). Deceptive communication. Newbury Park, CA: Sage.

Nęcki, Z. (2000) Komunikacja międzyludzka. Kraków: Antykwa, s:98

Vrij, A. Granhag, P.A (2012). Eliciting cues to deception and truth: What matters are the questions asked. Journal of Applied Research in Memory and Cognition 1. s:110–117

Vrij, A. Granhag, P.A. Mann, S. Leal, S. (2011). Outsmarting the Liars: Toward a Cognitive Lie Detection Approach. Current Directions in Psychological Science. 20,1, s:28-32

Vrij, A., Granhag, P.A., Porter, S. (2010). Pitfalls and Opportunities in Nonverbal and Verbal Lie Detection. Psychological Science in the Public Interest. 11,3 s:89–121

Vrij, A. (2008). Detecting lies and deceit. Chichester: John Wiley & Sons Ltd.

Vrij, A., Semin, R.G. (1996). Lie experts' beliefs about nonverbal indicators of deception. Journal of Nonverbal Behavior 20(1)

Integrating the NICHD Forensic Investigative Interview Protocol in the Biopsychosocial-Spiritual Model of Care for Victims of CSA and CSE

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Abstract
Child sexual abuse (CSA) and child sexual exploitation (CSE) exist globally and are therefore a global concern. Psychological rehabilitation centers that make use of the biopsychosocial-spiritual model do not necessarily incorporate the child victims' need for justice. And although a number of these institutions allow and even support the filing of criminal cases against the perpetrators, they have not incorporated definitive protocols that will ensure the success of the cases and prevent, as well, the inflation and deflation of the accounts of the child victims, including their possible retraumatization.

This concept paper proposed the integration of the NICHD Forensic Investigative Interview Protocol that would prepare psychologists and other stakeholders in the various facilities, including those in the administration of justice, to ask the right questions without leading these victims to inflate or deflate their accounts. It would similarly ensure that these stakeholders do the proper documentation of the accounts made by these child victims to serve the purpose of corroborating their court testimonies. The required video recording in the protocol would also bolster the cases of abuse and exploitation and would prevent possible retraumatization.

Philippine laws, meanwhile, have underscored the competency doctrine of the child victims as the *stare decisis* in these cases, as these laws have likewise guaranteed the constitutional right of these perpetrators. The use of this protocol balances the equation by guaranteeing the protection of these child victims and by similarly shielding the innocently accused perpetrators from criminal liability.

Keywords: NICHD Forensic Investigative Interview Protocol, child sexual abuse, child sexual exploitation, biopsychosocial-spiritual model of care, retraumatization, competency doctrine

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Introduction

Gap exists in the literature and in the actual rehabilitative and legal practices for the required standard of care for the child victims of sexual abuse and sexual exploitation in the country. Although psychological rehabilitation centers, psychological treatment facilities, and other similar institutions in the Philippines have clearly followed the biopsychosocial-spiritual model of care, a number of them have yet to incorporate the child victims' need for justice and vindication. Those that have done so, in the meantime, have not also considered integrating definitive forensic investigative interview protocols that will ensure the success of the cases that have been filed against these child abusers and that will prevent, as well, the inflation and deflation of the accounts of the child victims, including their possible retraumatization.

In instances of sexual assault, Rossetti (1995) pointed out that beneath the façade of sexual gratification is the sexual violator's abusive use of power vis-à-vis the child victim's sense of powerlessness. The World Health Organization (1999) defined child sexual abuse as an act in which an adult uses a child for sexual gratification. Accordingly, the gratification by this adult would come from the child's inappropriate exposure to adult sexuality, his or her direct sexual contact with the child, and his or her act of making the child available to others, directly or indirectly, for immoral or illegal acts, such as through pornography.

In the Philippines, Republic Act No. 7610 (17 June 1992), otherwise known as "The Act Providing A Stronger Deterrence And Special Protection Against Child Abuse, Exploitation And Discrimination, And for Such Other Purposes" defined child sexual abuse or CSA as the act of employing, using, persuading, inducing, enticing, or coercing a child to engage in sexual intercourse or lascivious conduct. It likewise refers to the molestation, prostitution, or incest with children.

This law, which similarly included child sexual exploitation or CSE, pointed to child prostitution as an example of that act that is committed by an adult, syndicate, or group on children, whether male or female, who for money, profit, or any other consideration or due coercion or influence, indulge in sexual intercourse or lascivious conduct with these children.

The law then identified who are considered as children by Philippine legal standards to include those individuals who are below eighteen years of age and those who although eighteen years old and above are unable to fully take care of themselves or protect themselves from abuse, neglect, cruelty, exploitation, or discrimination because of a physical or mental disability or condition.

Now, most of the psychological rehabilitation centers and treatment facilities and similar institutions in and out of the country have made use of the so-called biopsychosocial model as their standard of care for the victims of CSA and CSE. Brown (2008), for instance, pointed to the three phases of trauma treatment and collaboration for these victims to include: establishing safety, remembering and mourning, and reconnecting with others. Meanwhile, Bhagwan (2009) highlighted the spirituality of children as a pathway to healing, transformation and growth. In practice then, most of these rehabilitation centers and treatment facilities, and other similar

institutions have actually employed the biopsychosocial-spiritual model of care for the child victims.

Cody (2010) included a wide range of support services for these child victims. They include basic material assistance, health care, professional psychological services, education and training, and legal assistance, among others. There are many, of course, that have already incorporated all these needs using the biopsychosocial-spiritual model, including the need for legal assistance, whether such need is for punitive or for restorative purposes, Doan (2004) pointed out. The study of Malloy, Brubacher and Lamb (2011) on the expected consequences of disclosure of child sexual abuse, meanwhile, included physical harm and negative emotions that the child victims expected for their perpetrators. They similarly expected jailing and/or other legal consequences for the perpetrators of child sexual abuse.

The NICHD Forensic Investigative Interview Protocol

The National Institute of Justice (n.d.) developed the NICHD or the National Institute of Child Health and Human Development Forensic Investigative Interview Protocol based on the advances in the scientific understanding of children's memory. Accordingly, the free recall and the use of prompts to recall information were likely to elicit accurate information from these children.

With the expectation that this protocol would produce a higher quality of extracted information from the child victims, Harris (2010) identified the three phases involved, to include the following: an introduction phase, a rapport-building phase, and a substantive free recall phase.

In the intro phase, the forensic interview introduces himself or herself, sets the ground rules, and identifies what he or she expects from the child. In the rapport-building phase, the forensic interviewer asks the child to talk about events unrelated to the sexual abuse and familiarizes the child with open-ended techniques. Then in the substantive free recall phase, the forensic interview shifts to the use of an increasingly more focused prompt until the child identifies the targeted event. It is only upon the identification by the child victim of the targeted information that the forensic interviewer prompts the child with cued invitations to obtain incident-specific information.
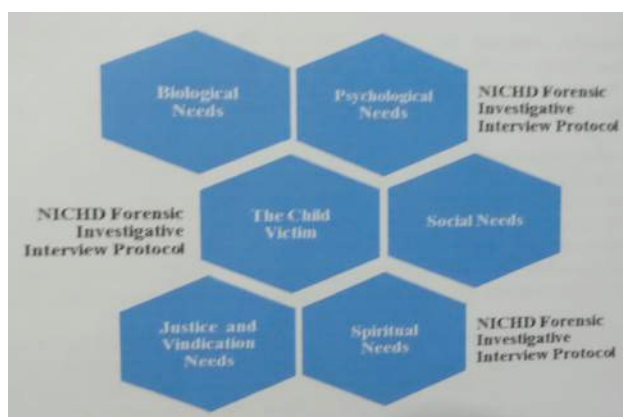
Figure 1: The Biopsychosocial-Spiritual Model of Care for the Child Victims with the Integration of the NICHD Forensic Investigative Interview Protocol

Competency Doctrine as Stare Decisis in Philippine Jurisdiction

There is the so-called presumption of competence on the part of the victims of child sexual abuse and child sexual exploitation when they testify before the courts against their perpetrators. Muyot (2004) claimed that the burden of proof rests on the party who challenges the child victim's competency. He added that the child victim is presumed competent to testify against his or her perpetrator because it is very unlikely that this child, in the natural course of things, will ever concoct or invent such story of abuse at a tender age.

Meanwhile, a child victim's statement outside of the court hearing is generally inadmissible in evidence because every accused, including the perpetrator of child sexual assault, has the constitutional right to confront his or her accuser during the trial through the cross-examination that will be conducted by his or her legal counsel on the child victim. In the Philippine jurisdiction, the statement outside of the court is generally considered hearsay and is therefore inadmissible in evidence in any trial court.

But because of the existing doctrine of competency on the part of the child victim of sexual assault, a videotaped or audiotaped disclosure interview may be admitted in evidence in criminal proceedings. Weinner and Hess (2006), in fact, pointed out that in cases of child sexual abuse, a statement of this child's sexual assault outside of the court hearing by the child himself or herself would serve as the most convincing evidence that could readily be used at hand.

By the same token, Herrera (2008) claimed that the competency doctrine in Philippine jurisdiction invited danger because it practically allowed suggestive interviews and biased interviewers, which quality of interviews could actually impair the reliability and validity of the child victim's disclosure.

Under the Rule on Examination of a Child Witness (21 November 2000), Philippine courts clearly allowed leading questions to be asked from a child victim in all stages of the trial court examination. Consciously or unconsciously then, a forensic interviewer could readily prompt a child to come up with an artificial story of this child's experience to the point that this experience could actually result in being inflated or deflated.

Studies by Heshkowitz and Terner (2007) revealed that the combination of repeated and leading questions (citing Quas, Goodman, Ghetti, & Redlich, 2000) actually caused more harm to the child's memory. The repeated interviews in forensic settings then could create and preserve erroneous accounts and inaccurate details (citing Warren and Lane, 1995).

Krähenbühl, Blades, and Wescott (2010) also supported the findings that question repetitions in forensic investigative protocols only encourage detrimental changes in the accuracy of the child's responses. Hughes-Scholes and Powell (2013) then aptly captured the main idea in any forensic investigative interview and that is to get the child to narrate the story in his or her own words with the forensic interviewer refraining from asking leading questions. Accordingly, the forensic interviewer can simply probe using open-ended questions to ferret out the truth.

Conclusion

Under Philippine laws and jurisprudence, the doctrine of competency in the examination of a child witness, including the competency of a child victim of sexual abuse and/or sexual exploitation to testify in the open court, is quite commendable, as this sits well to approximate the dynamics of power between the child victim and the perpetrator of the sexual abuse. However, problem in the application of the doctrine sets in when you have a perpetrator who is wrongly accused because of the repetitive leading questions posed by the various stakeholders in the psychological rehabilitation centers and psychological treatment facilities, and other similar institutions in and out of the Philippine jurisdiction that practically made the child to believe that an abuse has taken place when no such sexual abuse or exploitation actually happened.

Without the integration of a definitive forensic investigative interview protocol, such as the NICHD Forensic Investigative Interview Protocol, this child victim may not actually be protected despite the heavy reliance on the aforementioned doctrine. The ultimate goal to ferret out the truth from the child's traumatic experience and to prosecute the criminal perpetrator of child sexual abuse and/or child sexual exploitation will simply be defeated because the method used to do the same does not appropriately and reasonably provide for such avenue. The use of this protocol then balances the equation by guaranteeing the protection of these child victims and by similarly shielding the innocently accused perpetrators from criminal liability.

References

Bhagwan, R. (2009). Creating sacred experiences for children as pathwaysto healing, growth and transformation. *International Journal of Children's Spirituality, 14(3), 225–234.* DOI: 10.1080/13644360903086497

Brown, S., Brack, G., & Mullis, F. (2008). Traumatic symptoms in sexually abused children: Implications for school counselors. *Professional Counselors, 11(6), 368–379.* DOI: 10.5330/PSC.n.2010-11.368

Brubacher, S., Malloy, L., & Lamb, M. (2013). How do interviewers and children discuss individual occurrences of alleged repeated abuse in forensic interviews. *Applied Cognitive Psychology, 27:443-450.* DOI: 10.1002/acp2920

Cody, C. (n.d.). Recovery services for child victims of sexual violence and their families – What can be offered? Scotland: Council of Europe. Retrieved from http://www.coe.int/t/dg3/children/1in5/WhatWeKnow/Publication_en.asp

Doan, C. (11 March 2004). Justice for whom? Criminal, civil and restorative responses to child sexual abuse. Western Political Science Association 2004 Annual Meeting, Portland, OR. Retrieved from http://0-eds.b.ebscohost.com.ustlib.ust.edu.ph/ehost/pdfviewer/pdfviewer?vid=13&sid=592b4823-2dcf-48e0-94f8-30b94c09a047%40sessionmgr113&hid=114

Harris, S. (2010). Toward a better way to interview child victims of sexual abuse. *National Institute of Justice, 267*, 12-15, Retrieved from https://www.ncjrs.gov/pdffiles1/nij/233282.pdf

Herrera, O. (2008). *Comments on the rule on the examination of a child witness.* Manila: Rex.

Hughes-Scholes, C. & Powell, M. (2012). Techniques used by investigative interviewers to elicit disclosures of abuse from child witnesses: A critique. *Police Practice and Research, 14(1), 45-52.* DOI: org/10.1080/15614263.2012.680716

Krähenbühl, S., Blades, M., & Wescott, H. (2010). 'What else should I say?' An analysis of the question repetition practiced in police interviews of 4-11-year olds. *Police Practice and Research, 11(6), 477-490.* Milton Keynes: Taylor and Francis. DOI: 10.1080/15614263.2010.497346

Malloy, L., Brubacher, S., & Lamb, M. (2011). Expected consequences of disclosure revealed in investigative interviews with suspected victims of child sexual abuse. *Applied Developmental Science, 15(1), 8-19*. DOI: 10.1080/10888691.2011.538616

Muyot, A. (2004). Child sexual abuse and the rule on examination of a child witness. *Journal of the Integrated Bar of the Philippines, 30(2), 129-148*.

National Institute of Justice. (n.d.). Program profile. NICHD investigative interview protocol. Retrieved from https://www.crimesolutions.gov/ProgramDetails.aspx?ID=213

Republic Act No. 7610. (17 June 1992). An act providing for a stronger deterrence and special protection against child abuse, exploitation and discrimination, and for such other purposes. Retrieved from www.lawphil.net/statutes/repacts/ra1992/ra_7610_1992.ht

Rossetti, S. (1995). Child sexual abuse and power. *The Furrow, 46(12), 684-688*. Retrieved from http://www.jstor.org/stable/27663058

Rule on Examination of a Child Witness. (21 November 2000). A.M. No. 004-07-SC. Retrieved from http://www.lawphil.net/courts/supreme/am/am_004_07_sc_2000.html

Weinner, I., & Hess, A. (2006). Hearsay testimony. In Weinner, I., & Hess, A. (Eds.), *Handbook of forensic psychology, 3rd ed.* New Jersey: John Wiley & Sons.

World Health Organization. (1999). Guidelines for medico-legal care for victims of sexual violence. Retrieved from http://www.who.int/violence_injury_prevention/resources/publications/en/guidelines_chap7.pdf

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CEO Constellation, Capital Structure, and Financial Performance

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Abstract
Distinctive from prior research that emphasizes the influences of CEO demographic characteristics on corporate financial strategies, this study uses constellation traits as the proxy variables for CEO psychological traits and takes into consideration demographic characteristic variables to further analyze the relationship between CEO traits and corporate financial leverage, performance, and growth opportunity. This is an interesting issue worthy of study because shareholders and potential investors are always searching for CEOs that can create and increase values for the firms. The results show that there is a greater proportion of Leo CEOs in high-leverage firms, a greater proportion of Virgo CEOs in low-leverage and high-ROA firms, and a greater proportion of Pisces CEOs in both low- and high-MB-ratio firms. In addition, the CEOs with air-constellation are positively related to ROA. In general, CEOs with fire- and earth-constellations prefer using debt financing, while CEOs with air-constellation are averse to such. CEOs with fire- and air-constellations are positively related to ROA, while CEOs with earth-constellations are negatively related to ROA. Moreover, cash compensation will reduce the positive effect of air-constellation CEO on ROA.

Keywords: CEO constellation traits, Debt ratio, ROA, MB ratio.

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Introduction

The chief executive officer (CEO) is the primary decision-maker in a company and is an important leader in planning the company's strategic directions (Calori, Johnson, & Sarnin, 1994; Certo, Lester, Dalton, & Dalton, 2006). A CEO's management style affects the formation and execution of the firm's strategies (Jensen & Zajac, 2004), and his/her managerial characteristics also affect the firm's investment decisions and firm value (Malmendier & Tate, 2005; Goel & Thakor, 2008). According to the upper-echelon perspective, the observable demographic characteristics of specific managers, such as age, tenure, education, and functional backgrounds, are all important factors that can influence firm decisions and performance (Hambrick & Mason, 1984).

Peterson, Martorana, Smith, & Owens (2003) and Kisfalvi & Pitcher (2003) discussed how the CEO's personality influences the decision-making process of the top management teams (TMTs) and the subsequent impact on firm performance. Bertrand & Schoar (2003) suggested that the heterogeneity in a firm's investments, financing, and organizational practice can be explained by the fixed effect of the manager. In other words, the psychological biases or the traits of the manager are important factors influencing the differences in the firm's decisions. Several scholars have pointed out that the CEO's managerial orientation has significant impact on the diversification strategy of the corporation (Papadakis, 2006; Martinez-Campillo & Fernandez-Gago, 2011).

Many studies in behavioral finance have found that some specific manager traits, such as gender, age, tenure, educational background and career experience, are related to decision-making behavior (Barber & Odean, 2001; Bertrand & Schoar, 2003; Cadenilas et al., 2004; Malmendier & Tate, 2005; Matta & Beamish, 2008; Antia, Pantalis, & Park, 2010; Lin, Lin, Song, & Li, 2011; Buyl, Boone, Hendriks, & Matthyssens, 2011). In addition, in a moral hazard model created by information asymmetry, the manager prefers short-term results out of self-interest and sacrifices long-term optimal results for the company (Jensen & Meckling, 1976). In other words, these decisions are short-term decisions that fulfill personal optimization from the manager's personal perspectives; but they might be sub-optimal from the company's perspectives. Hirshleifer & Thakor (1992) pointed out that the managers may choose myopic investment out of reputational concerns for their personal ability. According to the hubris hypothesis of Roll (1986), overconfident CEOs aggressively make acquisitions (Malmendier & Tate, 2008). Moreover, overconfident CEOs overestimate the return on investment plans, and, given abundant internal funds, tend to overinvest. However, when external financing is required, overconfident managers believe that outside market has undervalued their companies, so they often forego mergers and underinvest (Malmendier & Tate, 2005).

Recent studies show that corporate capital structure decisions do not correspond with the behavior model of rational managers; it is a myth that remains to be clarified (Baker & Wurgler, 2002; Welch, 2004). The trade-off theory (Myers, 2001), established on the assumption of managerial rationality, has argued that the personal behavior of the manager is not reflected in corporate capital structure decisions. However, the agency theory proposed by Jensen & Meckling (1976) presents an opposite view, suggesting that that the self-interested behaviors of CEOs may damage

the interests of the company as a whole. Other studies in behavioral finance have discussed the impacts of the manager's demographic characteristics and psychological traits on corporate financing decisions. Demographic characteristics include age, tenure, educational background, and career experience (Hambrick & Mason, 1984; Berger, Ofek, & Yermack, 1997; Pegels & Yang, 2000; Graham & Harvey, 2001; Barker & Mueller, 2002; Bertrand & Schoar, 2003; Chen, Hsu, & Huang, 2010) while psychological traits include risk aversion, time preference, and overconfidence (Heaton, 2002; Malmandier & Tate, 2005, 2008; Graham, Harvey, & Puri, 2013; Landier & Thesmar, 2009; Malmendier, Tate, & Yan, 2011). The aforementioned empirical studies have found significant correlations between corporate capital structure and traits of CEOs or TMTs. Therefore, behavioral finance can explain the puzzle behind capital structure decisions better than traditional finance (Subrahmanyam, 2007).

In addition, according to the matching theory, CEOs that do not match their firms will leave, while CEOs that match will stay (Allgood & Farrell, 2003). Graham et al. (2013) suggested that it is the CEO's behavioral traits that match the firm, i.e., a CEO will choose a firm that matches his personal traits, or a firm will employ a CEO with specific traits it demands. For example, firms that prefer risk-taking CEOs have higher degree of risks; high-growth firms prefer risk-taking CEOs; young CEOs are confident, prefer risk-taking, and tend to work in high-growth firms; and, CEOs with high risk-taking tendencies and tolerance for uncertainties are more suitable for high-tech initial public offering (IPO) firms (Nelson, 2003). In practice, when hiring employees, many firms not only evaluate the demographic characteristics of recruits, but also take into consideration their psychological traits, in order to select employees that match with the company's profile. For example, it is believed that the twelve Zodiac Signs are associated with different kinds of personality traits (See Appendix 1.). An Aries person is characterized by high tolerance, pioneering spirit, and leadership. Taurus is practical, enduring, and cautious. Gemini is full of curiosity, intellectual, calm, courageous, and witty. Cancer is sensitive, reserved, and traditional. Leo is trustworthy, self-confident, egoistic, and power hungry. Virgo is diligent, precise, practical, and perfectionist. Libra is rational, graceful, and diplomatic. Scorpio is observant, determined, and innovative. Sagittarius is straightforward, freedom-loving, optimistic, and adventurous. Capricorn is thoughtful, patient, cautious, and practical. Aquarius is independent, courageous, and innovative. Pisces is self-sacrificing, dependent, sensitive, and talented. Since the personality traits mentioned above may have influence on the employees' behavior in the organization and thus have impact on company performance, some companies take into consideration whether traits of the employees' Zodiac Signs match with their positions.

Moreover, observing the trends in political and financial world, take for example the "Business People of the Year 2011" published by Business Today in December, 2011, and putting aside the commercial appeal of Business Today, reveals that, in terms of the method of selection and the index it uses, its categorization represents respectively different managerial traits for different aspects of corporate governance, with matching birthdate and astrological Zodiac Signs, which might be an indication of the phenomenon in the field or the business world (see Appendix 2.). For example, Tim Cook, the CEO of Apple Inc. in USA, is introduced as a Scorpio. Masayoshi Son, CEO of Softbank in Japan, is a Leo. And in Taiwan, Cher Wang, Chairwoman of

HTC, is a Virgo. Sean Chen, former Premier of the Republic of China, is a Libra. Perng Fai-nan, Governor of the Central Bank of the Republic of China, is a Scorpio. In other words, it might be suggesting that there is a certain degree of correlation between their Zodiac Signs and their performance in the positions. Therefore, statistical analysis of the influences of CEO traits, including their Zodiac Signs, on capital structure and financial decisions is a cross-disciplinary study that combines academic research and actual practice. Moreover, it is a fun subject of research interests.

Previous studies reveal that the demographic characteristics and psychological traits of CEOs influence their behaviors and performance, resulting in heterogeneity in strategic decisions of firms. Since it is not easy to obtain the data on CEO psychological traits through observations, and neither is it possible to accurately measure and quantify it, most studies emphasize the influences of demographic characteristics, which is easier to obtain. To supplement prior research, this study uses character traits represented by Zodiac Signs as proxy variables for the inner psychological traits of the CEOs in order to analyze the heterogeneity presented by CEOs' psychological traits and its correlation with the firms' financial strategies and performances. There is much discussion on the influences of CEO personality traits on the capital structure and profitability performance of firms; it is an issue of both academic and practical concern. This study uses the personality traits represented by the Zodiac Signs of CEOs as a starting point for research to observe how the personal characteristics of CEOs, who are decision-makers of companies, influence the capital structure and performance of firms. This is a perspective with new ways of thinking and has academic and practical value. Moreover, this is an interesting subject worthy of study because shareholders and potential investors are always looking for suitable CEOs that can create and increase value for the firms. The findings will also contribute to the discussion on influences of CEO personality traits on corporate capital structure and performance.

The rest of the paper is organized as follows. Section 2 reviews previous studies, focusing on literature related to influences of CEO traits on capital structure and performance. Section 3 describes the data and the empirical models employed in this study. Section 4 presents and discusses the empirical findings. Section 5 concludes the study.

Literature Review

CEO traits and capital structure

Traditional financial theories have discussed the relationship between manager and corporate capital structure decisions from classical perspectives. In general, traditional corporate financial theories, assuming managerial rationality, suggest that the managers' personal behaviors do not influence corporate capital structure decisions. For example, the trade-off theory (Myers, 2001) assumes that managers will give priority to the interests of shareholders as a whole (Leland & Toft, 1996; Goldstein, Ju, & Leland, 2001; Hennessy & Whited, 2005; Hackbarth, Hennessy, & Leland, 2007; Strebulaev, 2007); therefore, the managers' personal traits do not have any impact on corporate capital structure decisions. However, the agency theory suggests

that CEO as an agent for the company may sacrifice corporate interest to maximize personal gains out of self-interested rational behavior (Jensen & Meckling, 1976).

Many empirical studies have discussed the influences of manager traits on corporate financial decisions (Berger et al., 1997; Graham & Harvey, 2001; Bertrand & Schoar, 2003). Berger et al. (1997) found that entrenched managers will avoid debt-financing for companies. Baker & Wurgler (2002), on the basis of the rationality perspective, suggested that choosing debt-equity financing is the result of weighing interest tax shields and bankruptcy cost, and is influenced by the manager's view on whether their stock has been undervalued by the market. Welch (2004) proposed that corporate capital structures do not change with fluctuations in the stock market; this phenomenon is inconsistent with the rational assumption of capital structure decisions. Subrahmanyam (2007) suggested that the behavioral models developing according to actual personal behaviors can better explain the puzzle behind capital structure decisions.

Bertran & Schoar (2003) discussed the influences of managerial fixed effects on corporate decisions and found that CEOs with some particular traits tend to actively use debt-financing or dividend policies. Graham et al. (2013) analyzed psychological traits of managers such as risk aversion, time preference and optimism, and their relationship with corporate financial policies, and found that CEO personality traits or career path characteristics have influence on corporate capital structure. Heaton (2002) and Malmendier & Tate (2005) reported that optimistic or overconfident managers believe that their companies' stocks are being undervalued by the market and tend to use internal funds or debt-financing to replace equity financing. In other words, optimistic or overconfident managers will follow the pecking order theory to minimize external funding costs through decreasing risky equity financing. In addition, some empirical studies have found that overconfident CEOs can impact the companies' levels of debt financing. For example, Landier & Thesmar (2009) observed that overconfident CEOs prefer higher amount of short-term debt financing; Malmendier & Tate (2005, 2008) indicated that overconfident CEOs underestimate bankruptcy risk of the firm and choose aggressive financing policies, i.e., higher financial leverage ratio. Malmendier et al. (2011) found that overconfident CEOs prefer debt financing, and that the CEOs' early-life experiences influence their risk-taking behaviors and financial decision choices.

The study of Chen et al. (2010) suggested that TMTs traits significantly influence the firm's financing decisions. Young CEOs prefer high-risk strategies while senior managers prefer conservative ones, the same finding as those of Hambrick & Mason (1984), Pegels & Yang (2000), and Barker & Mueller (2002). Therefore, older CEOs tend to avoid risks, and, out of concern for personal positions and financial gains, prefer conservative capital structure decisions, while younger CEOs prefer higher amount of debt-financing.

CEO traits and firm performance

Previous studies have found that CEO demographic characteristics are highly correlated with corporate performance. Some studies have pointed out that age can influence a person's cognition, belief and human relationship network (Richard & Shelor, 2002), and that aging can lead into accumulation of personal experience, thus

influencing the person's attitude toward risks. For example, younger CEOs may aggressively reform company strategies or pursue high-risk strategies, while older CEOs are more conservative, tend to be pessimistic toward new technologies and prefer simpler solutions (Hambrick & Mason, 1984; Pegels & Yang, 2000; Barker & Mueller, 2002). Therefore, CEO age is highly correlated with corporate strategy and performance (Wiersema & Bantel, 1992; Weinzimmer, 1997). In addition, some studies have found that CEO age is related to the horizon problem. For example, Dechow & Sloan (1991), Barker & Muller (2002), and Matta & Beamish (2008) all found that CEOs close to retirement have higher degree of risk aversion and will reduce R&D investment. Conversely, younger CEOs, out of consideration for position and financial gains, have broader long-term horizon and higher risk tolerance, and therefore tend to increase R&D investment. Ryan & Wiggins (2002) pointed out that corporate R&D investment and CEO age present a non-linear inverted U-shaped correlation.

Other relevant empirical studies have found that tenure affects the CEO's willingness to take risks (Barker & Mueller, 2002). Jensen & Meckling (1979) pointed out that CEOs with shorter tenure will set up higher hurdle rate and tend to underinvest. Hirshleifer (1993) suggested that CEOs with shorter tenure, out of personal reputational concern, will focus on short-term performance and be unwilling to invest in R&D with higher risks. Myopic managers prefer investment plans with shorter payback periods due to concerns for reputation in labor market and job security (Hirshleifer & Thakor, 1992). Miller (1991), Hambrick & Fukutomi (1991), Thomas, Litschert, & Ramaswamy (1991), Hambrick, Geletkanycz, & Fredirckson (1993) and Barker & Muller (2002) all indicated that long-tenured CEOs might neglect environmental changes or be out of touch with organizational environment, and refuse changes and innovative or risky investments, because of desires to maintain status quo, concerns for personal job stability, or empire-building ambitions; thus causing negative impacts on company performance and becoming an obstacle for company growth.

According to the CEO-life-cycle model, CEOs with longer tenure can acquire bargaining power through contributions to firm performance or through becoming an internal director. This effect may reduce board supervision of CEO. Therefore, longer tenure reduces the risk of termination for the CEO (Shleifer & Vishny, 1989; Hermalin & Weisbach, 1998). In addition, according to the matching theory, CEOs that are poor matches for the company will leave the position, while highly matching CEOs will stay. Therefore, at the beginning of the CEO tenure, the risk of termination will increase, but the risk of termination will decrease with increasing length of tenure for the CEO (Allgood & Fareell, 2003). Brookman & Thistle (2009) used survival analysis to estimate the hazard function for CEO tenure and examine how the increment of risk of termination is related to the CEO's length of tenure; their study found that the longer the CEO's tenure is, the better the company performs.

Antia et al. (2010) used CEO tenure and age as proxy variables for CEO decision horizons and analyzed the influences of CEO decision horizons on market evaluation of the company. The results show that shorter decision horizons generate higher agency costs and information risks, which may lower the firm's market value. However, interests of longer-tenured CEOs are more aligned with those of shareholders; this may lead to increase in market's valuation of the firm.

Data and Methods

Data

This study collects the S&P 500 database using 129 non-financial firms from 2009 to 2011. The samples include firms from the mining industry (5 firms), construction industry (2 firms), manufacturing industry (70 firms), transportation, communication, electricity, gas and sanitary service industries (23 firms), wholesale trade (1 firm), retail trade (14 firms), services (11firms), and other industries (3 firms). The CEO demographic characteristics data (including age, tenure, gender, and pay) are mainly taken from EXCUCOMP database; the CEOs' birth date data are obtained through Who's Who; the financial data are sourced from COMPUSTAT. The Zodiac Signs of the CEOs are calculated on the basis of their dates of birth, checked through en.wikipedia.org, and then double-checked one-by-one to confirm that the names and the companies match.

Empirical model

Since both cross-sectional and time-series data exist in the empirical data of this study, in order to avoid the problem of cross-sectional self-effect of individual companies being neglected by the ordinary least square method, this study employs panel data random effect regression model for the empirical analysis of the relationship between CEO characteristics, capital structure, and firm performance. The empirical model is as follows:

$$DEBT_{it} = \alpha_i + \sum_{k=1}^{3} \beta_k Constell_{it} + \phi_1 AGE_{it} + \phi_2 PAY_{it} + \gamma_1 LnTA_{it} + \gamma_2 ROA_{it} + \gamma_3 MB_{it} + \varepsilon_{it}$$

(1)

$$ROA_{it} = \alpha_i + \sum_{k=1}^{3} \beta_k Constell_{it} + \phi_1 AGE_{it} + \phi_2 PAY_{it} + \gamma_1 LnTA_{it} + \gamma_2 DEBT_{it} + \gamma_3 MB_{it} + \varepsilon_{it}$$

(2)

$$MB_{it} = \alpha_i + \sum_{k=1}^{3} \beta_k Constell_{it} + \phi_1 AGE_{it} + \phi_2 PAY_{it} + \gamma_1 LnTA_{it} + \gamma_2 DEBT_{it} + \gamma_3 ROA_{it} + \varepsilon_{it}$$

(3)

where DEBT is debt ratio, representing the proxy variable for capital structure of the firms, calculated by dividing total liabilities by total assets; ROA is return on assets, representing the proxy variable for company performance, calculated by dividing the company's net income after tax by total assets; and MB is market-to-book ratio, representing the proxy variable for the company's future growth opportunity, calculated by dividing market price of equity by book value of equity. The model's independent variable, Constell, is the constellation category of the CEOs; this study classifies the 12 Zodiac Signs into 4 categories: fire, earth, air, and water, creating 3 dummy variables. AGE is the CEO's age. PAY is the CEO's cash compensation, including salary and bonus. LnTA is the company's total assets scale, representing the proxy variable for firm size, calculated by taking the natural logarithm of total assets. Table 1 shows the definition of the empirical variables.

Table 1
The definition of empirical variables.

Variable	Symbol	Definition
Debt ratio	DEBT	Debt Ratio = (total debts ÷ total assets) × 100%.
Return on assets	ROA	ROA = (net income after tax ÷ average total assets) ×

		100%.
Constellation type	Constell	Divide the 12 Zodiac Signs into 4 elemental categories: fire, earth, air and water; and create 3 dummy variables: Fire, Dust, Wind. For firms with CEOs born under the signs of Ares, Leo, and Sagittarius, Fire = 1; otherwise, Fire = 0. For Taurus, Virgo, and Capricorn, Dust =1; otherwise, Dust = 0. For Gemini, Libra and Aquarius, Wind =1; otherwise, Wind = 0.
Growth opportunity	MB	Use market-to-book ratio of firm equity as the proxy variable for the firm's growth opportunity; MB = market value of equity ÷ book value of equity.
Firm size	LnTA	Use the total assets (TA) of the firm as the proxy variable for firm size; LnTA = natural logarithm of the total assets of the firm.
CEO age	AGE	Age of the CEO of the firm.
Cash pay	PAY	Cash compensation of CEO = salary + bonus.

Empirical Results

Descriptive statistics and one-way ANOVA test

The descriptive statistics of the empirical variables are reported in Table 2. The eigenvalue of each variable reveals that the average debt ratio of the 129 firms is 60.09%; the average ROA is 5.96%; the average MB ratio is 3.02; the average total assets is USD 47,219 million; the average CEO age is 70; the average cash pay for the CEO is USD 2,112,000. In addition, according to the minimum values, maximum values and standard deviation of the variables, the sample firms have high variability for all the variables.

Table 2
Descriptive statistics.

Variable	Average	Minimum	Maximum	Std. Dev.
Debt ratio	60.09	19.78	97.76	16.02
ROA	5.96	-16.14	76.811	6.58
MB ratio	3.02	0.01	90.55	5.35
Total assets (million USD)	47219.44	142.00	781818.00	85904.61
CEO Age	69.77	44.00	95.00	8.93
Cash pay (thousand USD)	2112.84	46.11	16700.00	2236.13

This study uses mode to observer the CEO distribution of the 129 samples and finds that Virgo CEOs constitute the majority among the 12 Zodiac Signs; CEOs with earth-sign constitute the majority according to the four elemental classification system; CEOs with fixed modality are the majority according to the three modality classification system; and CEOs with negative polarity are the majority according to the two polarity classification system of Zodiac Signs. Such findings indicate that the 129 firms prefer CEOs with Zodiac Signs characterized by leadership, innovativeness, stability, intelligence, optimism and cautiousness. For the classification and characteristics of the Zodiac Signs, please refer to Appendices 1 and 2. Furthermore,

this study sorts the debt ratio, ROA, and MB ratio of the 129 sample firms from low to high, dividing the samples into low, middle, and high groups, with the first 1/4 as the Low group, the next 1/2 as the Middle group, and the last 1/4 as the High group, and then uses mode to observe the Zodiac Signs in each group. The mode distribution data of CEO Zodiac Signs in Low, Middle, and High groups are reported in Table 3.

Overall, the mode distribution of Zodiac Signs shows that, firms with higher debt ratio, ROA, and MB ratio have CEOs with positive signs; while firms with lower debt ratio, ROA and MB ratio have CEOs with negative signs. From the perspective of the 12 Zodiac Signs, most firms with high debt ratio have Leo CEOs; most firms with low debt ratio and high ROA have Virgo CEOs; and Pisces CEOs show bipolar influences for the MB ratio of firms. From the perspective of elements and modalities, firms with fire-sign or fixed-modality CEOs have higher debt ratios; firms with earth-sign and water-sign or mutable-modality CEOs have lower debt ratios. Firms with air-sign or mutable-modality CEOs have higher ROA and MB ratios. Firms with water-sign and earth-sign or mutable-modality CEOs have lower ROA and MB ratios.

Table 3
Mode distribution of CEO constellation traits in three subsample groups.

Groups	Constellation	Debt Ratio	ROA	MB Ratio
Low	12 Zodiacs Signs	Virgo	Taurus	Pisces
	4 Elements	Earth	Water	Water
	3 Modalities	Mutable	Fixed	Fixed
	2 Polarities	Negative	Negative	Negative
Middle	12 Zodiacs Signs	Pisces	Leo	Virgo
	4 Elements	Water	Earth	Earth
	3 Modalities	Mutable	Fixed	Fixed
	2 Polarities	Negative	Negative	Negative
High	12 Zodiacs Signs	Leo	Virgo	Pisces
	4 Elements	Fire	Air	Air
	3 Modalities	Fixed	Mutable	Mutable
	2 polarities	Positive	Positive	Positive

Note: This study sorts the debt ratios, ROA, and MB ratios of the 129 firms from low to high to divide the samples into Low, Middle, and High groups. The first ¼ firms belong to the Low group; the next ½, Middle, and the last ¼, High. Then mode is employed to observe the most frequent Zodiac Signs in the groups. According to the 4 Elements, the 12 Zodiac Signs are divided into groups of Fire signs, Earth signs, Air signs, and Water signs. According to the 3 Modalities, the 12 Zodiac Signs are divided into Cardinal, Fixed, and Mutable groups. According to the 2 Polarities, the 12 Zodiac Signs are divided into Positive and Negative Groups.

This study further uses one-way ANOVA to test the differences between debt ratio, ROA, MB ratio, and CEO pay of the four astrological categories; the test results are reported in Table 4. As can be seen, there are significant differences between debt ratio, ROA and CEO pay. Comparing the average variables of the firms among the four astrological categories shows that, in terms of debt ratio, firms with fire-sign

CEOs have the highest debt ratio, while firms with air-sign CEOs have the lowest debt ratio; in terms of ROA, air signs have the highest ROA, while earth signs or water signs have lower ROA; in terms of CEO pay, fire-sign CEOs have the highest pay, while air-sign CEOs have the lowest pay.

Table 4

The results of one-way ANOVA test.

Variable	Fire Signs	Earth Signs	Air Signs	Water Signs	F-test
Debt ratio	63.25	59.36	56.99	61.03	2.509**
ROA	6.68	4.94	7.62	4.89	4.141***
MB ratio	3.84	3.20	2.90	2.21	1.496
Cash pay	49187.76	31197.27	27218.08	30785.29	2.487**
Firms(Observations)	29 (87)	36 (108)	31 (93)	33 (99)	

Note: Fire signs include Aries, Leo, and Sagittarius; Earth signs include Taurus, Virgo, and Capricorn; Air signs include Gemini, Libra, and Aquarius; Water signs include Cancer, Scorpio, and Pisces. ** and *** represent 5% and 1% statistical significance level, respectively.

CEO constellation trait analysis

This study uses panel data random effect model to test the relationship between CEO constellation traits and corporate financial leverage, profitability, and growth opportunity, respectively; the test results are compiled in Table 5. As the findings can be seen, Model (1) shows that CEO constellation traits do not present significant influence on the firms' debt ratios and MB ratios; only air signs are significantly positively correlated with ROA. Overall, fire-sign or earth-sign CEOs prefer high financial leverage, while air-sign CEOs prefer low financial leverage. Fire-sign or air-sign CEOs have positive influences on firm profitability, while earth-sign CEOs have negative influences on profitability. Moreover, CEO cash compensation is significantly negatively correlated with debt ratio and ROA, indicating that while cash compensation may prevent CEOs from raising financial leverage, it might have negative influences on ROA.

Table 5
The results of random effect regression analysis.

Variable	Debt ratio		ROA		MB ratio	
	Model (1)	Model (2)	Model (1)	Model (2)	Model (1)	Model (2)
Fire	0.371	0.331	1.671	1.914	0.908	-0.264
Dust	0.036	-0.555	-0.148	0.959	1.043	0.237
Wind	-0.750	1.257	2.254**	4.460***	0.583	0.086
AGE	0.022	0.007	-0.004	-0.004	0.023	0.015
PAY	-0.946**	-1.128**	-0.641*	-0.146	0.307	-0.060
Fire x Dpay		0.275		-0.316		2.028
Dust x Dpay		2.354		-1.682		1.460

Wing x Dpay		-2.371		-3.765**		0.640
LnTA	3.018***	3.110***	0.753**	0.866***	-0.312	-0.348
DEBT			-0.122***	-0.118***	0.124***	0.122***
ROA	-0.131***	-0.145***			0.181***	0.184***
MB	0.361***	0.358***	0.221***	0.216***		
Constant	35.537***	11.684***	9.388*	4.184	-7.050*	-3.236
Adj R2	0.0738	0.0753	0.1515	0.1526	0.1681	0.1808

Note: This study divides the 12 Zodiac Signs into 4 elemental groups: fire signs, earth signs, air signs and water signs; and creates 3 dummy variables for them: Fire, Dust, and Wind, respectively. For firms with CEOs born under the signs of Ares, Leo, and Sagittarius, Fire = 1; otherwise, Fire = 0. For those under Taurus, Virgo, and Capricorn, Dust =1; otherwise, Dust = 0. For those under Gemini, Libra and Aquarius, Wind =1; otherwise, Wind = 0. AGE denotes age of the CEO of the firm. PAY denotes cash compensation for the CEO = salary + bonus. This study uses the median of the CEO cash pay of all samples as the basis for distinguishing the level of cash compensation: if the CEO's pay is higher than the median, Dpay = 1; otherwise, Dpay = 0. LnTA is the natural logarithm of a firm's total assets, as the proxy variable for firm size. DEBT is debt ratio = (total debts ÷ total assets) *100%. ROA is return on assets = (net income after tax ÷ average total assets) * 100%. MB is market to book ratio of the firm's equity value = market value of equity ÷ book value of equity, as the proxy variable for growth opportunity. Constant is the intercept item of random effect model. *, **, and *** represent 10%, 5%, and 1% statistical significance level, respectively.

This study further includes the interaction term of CEO constellation and cash pay to examine whether CEO cash compensation has influence on the relationships between CEO constellation traits and financial leverage, profitability, and growth opportunity. The median of CEO cash pay from all samples is used as a basis for dividing cash compensation into high to low. A dummy variable is created; i.e., if CEO cash compensation is larger than the median, Dpay = 1; Otherwise, Dpay = 0. Model (2) shows that only ROA is influenced by air-sign traits and that they are significantly correlated. However, the regression coefficient of the cross item of air sign and cash pay presents a negative correlation, indicating that high cash pay have negative impact on the air-sign influence on ROA.

Conclusion

According to the upper-echelon perspective, the demographic characteristics of managers are important factors influencing corporate governance and performance. From the perspective of financial behaviors, corporate financing decisions are significantly influenced by CEO demographic characteristics and psychological traits. Distinctive from prior research that emphasizes the influences of CEO demographic characteristics on corporate financial strategies, this study uses constellation traits as the proxy variables for CEO psychological traits and takes into consideration demographic characteristic variables to further analyze the relationship between CEO traits and corporate financial leverage, performance, and growth opportunity to fill in the gaps of related literature. This is an interesting issue worthy of study because

shareholders and potential investors are always searching for CEOs that can create and increase values for the firms.

This study takes 129 non-financial S&P 500 firms from 2009 to 2011 as samples and uses the panel data random effect regression model to analyze the relationship between CEO constellation traits and corporate financial leverage, performance, and growth opportunity. The results show that, according to the mode distribution of the 12 Zodiac Signs, most firms with high financial leverage have Leo CEOs; most firms with low debt ratio and high ROA have Virgo CEOs; and Pisces CEOs have bipolar performance for the MB ratio of the firms. The panel data random effect regression analysis found that air constellations are positively correlated with ROA. Overall, fire-sign and earth-sign CEOs prefer high financial leverage, while air-sign CEOs prefer low financial leverage; fire-sign and air-sign CEOs have positive influences on firm profitability, while earth-sign CEOs have negative influences. In addition, the regression coefficient of the interaction item of air sign and cash compensation present significant negative correlation, indicating that high cash compensation has negative influence on the performance of air-sign CEOs in terms of ROA.

Since this study emphasized the influences of CEO constellation traits, follow-up studies can take into consideration the education background, career experience, and CEO position or identity traits (e.g., if the CEO is the founder or if dual positionality exists for the CEO). Moreover, further analysis may include the interaction effect of corporate governance mechanism and CEO constellation traits.

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References

Allgood, S., & Farrell, K. A. (2003). The Match between the CEO and the Firm. Journal of Business, 76(2), 317-341.

Antia, M., Pantalis, C., & Park, J. C. (2010). CEO Decision Horizon and Firm Performance: An Empirical Investigation. Journal of Corporate Finance, 16(3), 288-301.

Baker, M. P., & Wurgler, J. (2002). Market Timing and Capital Structure. Journal of Finance, 57(1), 1-32.

Barber, B., & Odean, T. (2001). Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment. Quarterly Journal of Economics, 116(1), 261-292.

Barker, V., & Mueller, G. (2002). CEO Characteristics and Firm R&D Spending. Management Science, 48(6), 782-801.

Berger, P., Ofek, E., & Yermack, D. (1997). Managerial Entrenchment and Capital Structure Decisions. Journal of Finance, 52(4), 1444-1438.

Bertrand, M., & Schoar, A. (2003). Managing With Style: The Effect of Mangers on Managers on Firm Policies. Quarterly Journal of Economics, 118(4), 1169-1208.

Brookman, J., & Thistle, P. D. (2009). CEO Tenure, the Risk of Termination and Firm Value. Journal of Corporate Finance, 15(3), 331-344.

Buyl, T., Boone, C., Hendriks, W., & Matthyssens, P. (2011). Top Management Team Functional Diversity and Firm Performance: The Moderating Role of CEO Characteristics. Journal of Management Studies, 48(1), 151-174.

Cadenillas, A., Cvitanic, J., & Zapatero, F. (2004). Leverage decision and manager compensation with choice of effort and volatility. Journal of Financial Economics 73(1), 71-92.

Calori, R., Johnson, G., & Sarnin, P. (1994). CEOs Cognitive Maps and the Scope of the Organization. Strategic Management Journal, 15(6), 437-457.

Certo, S. T., Lester, R. H., Dalton, C. M., & Dalton, D. R. (2006). Top Management Teams: A Meta-Analytic Examination. Journal of Management Studies, 43(4), 813-839.

Chen, H. L., Hsu, W. T., & Huang, Y. S. (2010). Top Management Term Characteristics, R&D Investment and Capital Structure in the IT Industry. Small Business Economics, 35(3), 319-333.

Dechow, P. and Sloan, R. (1991). Executive Incentives and the Time Horizon Problem. Journal of Accounting and Economics, 14(1), 51-89.

Goel, A. M., & Thakor, A. V. (2008). Overconfidence, CEO selection, and corporate governance. Journal of Finance, 63(6), 2737-2784.

Goldstein, R., Ju, N., & Leland, H. (2001). An EBIT Based Model of Dynamic Capital Structure. Journal of Business, 74(4), 483-512.

Graham, J. R., & Harvey, C. (2001). The Theory and Practice of Corporate Finance: Evidence From the Field. Journal of Financial Economics, 60(2-3), 187-243.

Graham, J. R., Harvey, C. R., & Puri, M. (2013). Managerial Attitudes and Corporate Actions. Journal of Financial Economics, 109(1), 103-121.

Hackbarth, D., Hennessy, C., & Leland, H. (2007). Can the Tradeoff Theory Explain Debt Structure? Review of Financial Studies, 20(5), 1389-1428.

Hambrick, D. C., & Fukutomi, G. D. S. (1991). The Reasons of CEO's Tenure," Academy of Management Review, 16(4), 719-742.

Hambrick, D. C., Geletkanycz, M. A., & Fredirckson, J. W. (1993). Top Executive Commitment to the Status Quo: Some Tests of Its Determinants. Strategic Management Journal, 14(6), 401-418.

Hambrick, D. C., & Mason, P. A. (1984). Upper Echelons: The Organization as a Reflection of Its Top Managers. Academy of Management Review, 9(2), 193-206.

Heaton, J. B. (2002). Managerial Optimism and Corporate Finance. Financial Management, 31(2), 33-45.

Hennessy, C., & Whited, T. (2005). Debt Dynamics. Journal of Finance, 60(3), 1129-1165.

Hermalin, B. E., & Weisbach, M. S. (1998). Endogenously Chosen Boards of Directors and Their Monitoring of the CEO. American Economic Review, 88(1), 96-118.

Hirshleifer, D. (1993). Managerial Reputation and Corporate Investment Decisions. Financial Management, 22(2), 145-160.

Hirshleifer, D., & Thakor, A. V. (1992). Managerial Conservatism, Project Choice, and Debt. Review of Financial Studies, 5(3), 437-470.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. Journal of Financial Economics, 3(4), 305-360.

Jensen, M., & Zajac, E. (2004). Corporate Elites and Corporate Strategy. Strategic Management Journal, 25(6), 507-524.

Kisfalvi, V., & Pitcher, P. (2003). Doing What Feels Right: The Influence of CEO Character and Emotions on Top Management Team Dynamics. Journal of Management Inquiry, 12(1), 42-66.

Landier, A., & Thesmar, D. (2009). Contracting With Optimistic Entrepreneurs: Theory and Evidence. Review of Financial Studies, 22(1), 117-150.

Leland, H., & Toft, K. B. (1996). Optimal Capitals Structure, Endogenous Bankruptcy and the Term Structure of Credit Spreads. Journal of Finance, 51(3), 987-1019.

Lin, C., Lin, P., Song, F. M., & Li, C. (2011). Managerial Incentives, CEO Characteristics and Corporate Innovation in China's Private Sector. Journal of Comparative Economics, 39(2), 176-190.

Malmendier, U., & Tate, G. (2005). CEO Overconfidence and Corporate Investment," Journal of Finance, 60(6), 2661-2700.

Malmendier, U., & Tate, G. (2008). Who Makes a Acquisitions? CEO Overconfidence and the Market'S Reaction. Journal of Financial Economics, 89(1), 20-43.

Malmendier, U., Tate, G., & Yan, J. (2011). Overconfidence and Early-Life Experiences: The Effect of Managerial Traits on Corporate Financial Policies. Journal of Finance, 65(5), 1687-1733.

Martínez-Campillo, A., & Fernández-Gago, R. (2011). Diversification strategy, CEO management style and firm performance: An application of Heckman's two-stage model. Quality & Quantity, 45(1), 59-73.

Matta, E., & Beamish, P. W. (2008). The Accentuated CEO Career Horizon Problem: Evidence from International Acquisitions. Strategic Management Journal, 29(7), 683-700.

Miller, D. (1991). Stale in the Saddle: CEO Tenure and the Match between Organization and Environment. Management Science, 37(1), 34-52.

Myers, S. (2001). Capital Structure. Journal of Economic Perspectives, 15(2), 81-102.

Nelson, T. (2003). The Persistence of Founder Influence: Management Ownership, and Performance Effects at Initial Public Offering. Strategic Management Journal, 24(8), 707-724.

Papadakis, V. M. (2006). Do CEOs Shape the Process of Making Strategic Decisions? Evidence from Greece. Management Decision, 44(3), 367-394.

Pegels, C., & Yang, B. (2000). Top Management Team Impact on Strategic Assets Accumulation Capabilities. Management Decision, 38(10), 694-710.

Peterson, R. S., Martorana, P.V., Smith, d. B., & Owens, P. D. (2003). The Impact of Chief Executive Officer Personality on Top Management Team Dynamics: One Mechanism by Which Leadership Affects Organizational Performance. Journal of Applied Psychology, 88(5), 795-808.

Richard, O., & Shelor, R. (2002). Linking Top Management Team Age Heterogeneity to Firm Performance: Juxtaposing Two Mid-Range Theories. International Journal of Human Resource Management, 13(6), 958-974.

Roll, R. (1986). The Hubris Hypothesis of Corporate Takeovers. Journal of Business, 59(2), 197-216.

Ryan, H. E., & Wiggins, R. A. (2002). The Interactions between R&D Investment Decisions and Compensation Policy. Financial Management, 31(1), 5-29.

Shleifer, A., & Vishny, R. (1989). Management Entrenchment: The Case of Manager-Specific Investments. Journal of Financial Economics, 25(1), 123-139.

Strebulaev, I. (2007). Do Tests of Capital Structure Theory Mean What They Say. Journal of Finance, 62(4), 1747-1787.

Subrahmanyam, A. (2007). Behavioural Finance: A Review and Synthesis. European Financial Management, 14(1), 12-29.

Thomas, A. S., Litschert, R. J., & Ramaswamy, K. (1991). The Performance Impact of Strategy-Manager Co-Alignment: An Empirical Examination. Strategic Management Journal, 12(7), 509-522.

Weinzimmer, L. G. (1997). Top Management Team Correlates of Organizational Growth in a Small Business Context: A Comparative Study. Journal of Small Business Management, 35(3), 1-9.

Welch, I. (2004). Capital Structure and Stock Return. Journal of Political Economy,112(1), 106-136.

Wiersema, M. F., & Bantel, K. A. (1992). Top Management Team Demography and Corporate Strategic Change. Academy of Management Journal, 35(1), 91-121.

Appendix 1. Behavioral traits associated with the 12 Zodiac Signs

Zodiac	Date of Birth	Personality traits
Aries (Fire)	03/21-04/19	Civic-minded, decisive, straightforward, acute, stubborn, vain, intensely emotional. They have a high degree of tolerance. They have the willpower and the fight instinct to overcome hardships. Once they come up with a goal in mind, they will be able to overcome all difficulties and move forward. In a new environment, their pioneering spirits play the lead to open up new opportunities as leaders, with leadership. There is also an aggressive side, their greatest joy is to set difficult things in motion against all odds.
Taurus (Earth)	04/20-05/20	Reticent, determined, calm, cautious. They have gentle personality and solid temperament; they are calm and at ease. Although they might get hesitant about things, but once determined, will be able to move forward through perseverance. Patient and strong, they act carefully; but there is also a stubborn side. They are dutiful to the duty they are entrusted with and will never give up halfway.
Gemini (Air)	05/21-06/21	Smart, agile, resourceful, schizophrenic, arrogant, full of curiosity, good at communication. They are sharp and quick. They have a strong sense of curiosity and thirst for knowledge, and are very sharp for new ideas and new fashions. Clever, eloquent, they are strategists and speakers. They are able to handle accidents, through calm observation, by being bold and being a responsible person. And often there will be some whim of ideas, which they boldly hypothesize and carefully refute.
Cancer (Water)	06/22-07/22	Loving, sensitive, imaginative, shrewd, subjective. Emotionally rich, they have strong sensitivity for things. Diplomatic and humble, they are very aware of public relations, but they also have strong defense instinct for domestic affairs, unwilling to let their privacy be disturbed. Generally gentle and introverted, but they will never bow to the evil forces. Enthusiastic for community, they have a strong sense of self and respect people who stand their grounds. They are nostalgic and traditional.
Leo (Fire)	07/23-08/22	Self-confident, self-complacent, strong planning and leadership skills, not flexible, smart, energetic, strong-willed, passionate, courageous, impatient, careless. Honest, quite dignified. They like to use their own charm and talent to create a whole new world, and are eager for positions of power. They do things honorably, going all out, and are disgusted by despicable villainy acts. They have acting talent, and are self-confident, almost narcissistic. Also, they attract the masses with their generous hearts. However, they tend to have emotion

		swings, and often feel lonely.
Virgo (Earth)	08/23-09/22	Calm, attentive, serious, ethical, picky (perfectionism). Diligent, meticulous, they like the contact with the community, act rationally, and are the type that contributes to society. They are considerate to people, work efficiently and are commanding; but sometimes they are too careful and miss the big picture. However, generally, they are able to plan and get things done in practice, and they always work in good conscience. They are thoughtful, full of critical spirit, and can easily become a sharp critic. They have strong moral values.
Libra (Air)	09/23-10/23	Mild, calm, intelligent, indecisive. Balanced and sensible. They have a good sense of balance and fair judgment, good coordination, and can often mediate opposing views. Always on the logic and strategy, they absolutely use no violence to resolve things, but with clever diplomacy, and find balance for conflicting rights and interests. They are indecisive but not hesitant, diplomatic, have social talents, and can easily win favor from those in power.
Scorpio (Water)	10/24-11/22	Intelligent, deep, hard-working, bad at communication, courageous, lack foresight and hindsight. Strong impulsive, they have energy and courage, and do not fear difficult. Observant, they are often able to discern the truth of things and have unique insights. When acting, they use destructive and innovative ways. They are full of mystery. Never actively harm anyone, but if hurt they will hit back in retaliation, by taking appropriate response measures. They are relentless on spiritual and material needs and their reactions to love and hate are very strong.
Sagittarius (Fire)	11/22-12/21	Freedom-loving, focused, calm, witty, weak analytical skills. Frank and cheerful, they have high expectations for justice and truth, and want to have knowledge and experience more than ordinary people. Focused on spiritual life, they like philosophical thinking and put human welfare and global progress far above individual needs, but easily fall into empty optimism. Bold and adventurous, with their love of freedom, no matter under what circumstances they wish to remain independent in spirit and in action.
Capricorn (Earth)	12/22-01/19	Stubborn, arbitrary, conservative, patient and strong, unyielding, practical (realistic), conceited. Full of wisdom, thoughtful. They have a high degree of endurance and can patiently wait under harsh realities. To make plans work, they can get through a long period of arduous preparation, never letting up. Thinking deep, they know well about human nature. They may not be agile, but they will persevere. Rigorous and practical,

		they easily become lonely. They never hide their self-interest, but generally can still obtain trust of those in power. They have a sense of social responsibility and know how to weigh advantages and disadvantages to build a place for themselves in the world.
Aquarius (Air)	02/20-02/18	Arbitrary, bold and courageous, without foresight. Independent and perseverant, the Aquarius people often have some radical and innovative insights; they are the characters of the new era, full of universal love and awareness of democracy, and can break and ethnic differences and social class to cultivate true friendship. Against some conventional concepts, in order to be loyal to their own belief, they will try to radically resist. They are the type of people that tend to form political parties or groups and initiate movements for a common purpose.
Pisces (Water)	02/19-03/20	Smart, sensitive, self-sacrificial, idealistic, indecisive, problem-evading (challenges). Talented and like to dream, the Pisces people are dependent but can be adaptive to different environments and positions. They are full of creative and artistic talent, and tend to indulge in poetic plots and dreams, believing that true happiness come from being one with the spiritual world. Since they choose to stay away from earthly life, they will not have much success in the material world. Compassionate and self-sacrificing, they are especially sympathetic for the weak and unfortunate people in the society.

Data Source: compiled from www.yahoo.com.tw and www.msn.com.tw.

Appendix 2. Classifications of Zodiac Signs and behavioral traits

Classifications	Positive polarity		Negative polarity		Behavioral traits
	Fire elemental	Air elemental	Earth elemental	Water elemental	
Cardinal (Beginning of each season)	Aries	Libra	Capricorn	Cancer	Leadership; innovative; stubborn; positive; creative; ambitious; passionate; independent; autocratic; courage to lead.
Fixed (Middle of each season)	Leo	Aquarius	Taurus	Scorpio	Stable; stubborn; self-centered; do not like change; intensely emotional; see things in black and white and are difficult to communicate or negotiate with; perseverant; positive; reliable; loyal.
Mutable (End of each season)	Sagittarius	Gemini	Virgo	Pisces	Ingenuous and attentive; smart and quick; innovative; emphasize on integration of different ideas; easy-going; adaptive; diverse; sensitive and fickle; compassionate; intuitive; quick to absorb new knowledge and new ideas.
	Proactive	Optimistic	Safe	Affectionate	

Personality Traits	Leadership Motivated Freedom-loving	Smart Witty Innovative	Stable Realistic Stubborn Thrifty	Family-oriented Planner Attentive
	Positive traits: Proactive, optimistic, independent, good at communication, innovative, harmonious, humanitarian.		Negative traits: Passive, pessimistic, sensitive of security, analytical, focused, cautious, easily-influenced, ethical, consistent.	

Data Source: Compiled from astrological encyclopedia, www.coden.com.tw/libary/, www.yahoo.com.tw, and www.msn.com.tw.

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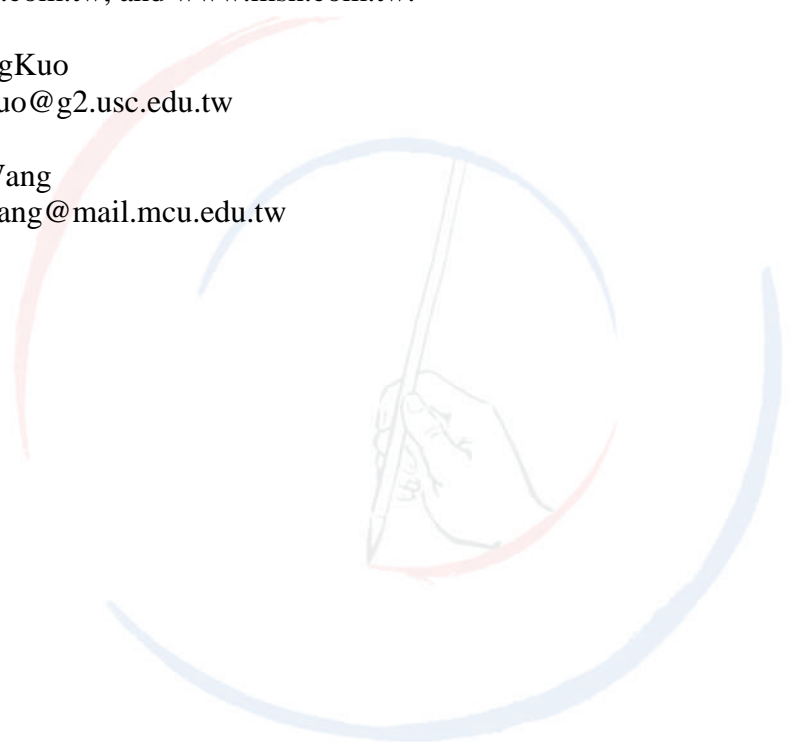
A Kansei Engineering Approach to Evaluate Consumer Perception on Social Media: A Case Study of Giant Manufacturing Company

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Abstract

Nowadays, social media marketing is becoming increasingly important issue for companies to gain website traffics or attention from their customers. The main purposes of applying social medias, in marketing is as a communications tool that makes the companies and their products accessible to the target customers as well as potential customers. However, most companies do not know how to design and manage their social media websites, resulting in poor word-of-mouth, slow sales growth, and reducing brand value.

This paper develops a Kansei engineering methodology to help companies better understand how consumer perception on the social website influences consumer intension. The Facebook fan page of Giant Manufacturing Co., the world's largest bicycle manufacturer, is served as the study subject. The questionnaire is designed based on Kansei words collected from different sources and the concept of experiential marketing used to define design elements. Principle component analysis is used to reduce the number of perception variables and then regression analysis is applied to determine the ranking order of perception variables that have impacts on corporate site traffics.

The contribution of this research is to help firms better understand significant impacts of consumer perception for corporate fan pages on their website. The firm can apply the developed methodology to improve their fan page design and management, leading to better customer experience, higher conversion rate, and increased brand recognition.

Keywords: Social Media, Kansei Engineering, Experiential Marketing

Introduction

Nowadays, social media marketing is becoming increasingly important issue for companies to gain website traffics or attention from their customers. McLaughlin (2010) classified social media into seven groups which are social networking site、blogging、microblogging、media sharing、social news and social bookmarking, Kaplan & Haenlein (2010) believed social media is a private space to exchange information and ideas through users of each other. In short, the main purpose of social media is that provide users a place for communication and interaction. They used different classification with McLaughlin to classify social media into six group which are collaborative projects、blog、content communities、social networking sites、virtual game worlds and virtual social worlds. According to the above described, social networking sites (Facebook,、Myspace) has been implemented in today's society, there are already a lot of people that publish their own exclusive content, expanding circle of friends, sharing, and searching for the newest information. In addition, Facebook is now one of the most popular social networking site. View from the browsing, Facebook is the top of website in the world, Facebook also has acquired some of APP (Instagram) and software to enhance the reputation and customer rates. Based on investigation of 2014, the activity number of Facebook is 1.31 billion for every month, revenue of $ 6.15 billion. If companies can join to Facebook, it can bring unlimited benefits.

Now, social media is not only for personal, but also for companies, more and more companies are using social media groups to communicate with consumers to increase their brand awareness and loyalty. A positive word-of-mouth recommendation can bring companies to the postive benefit, companies also tend to promote their brand and product through the consumer's "free" word-of-mouth recommendation to reach their goal. But another issue is negative word-of-mouth, companies have to avoid it.

In order to increase the company benefits and avoid the negative word-of-mouth on the social media, we need to find the consumer real requirements. Several techniques can be used to express consumer needs and perceptions into product or service design properties. These techniques involve quality function deployment (QFD) (Akao, 1990), conjoint analysis (Green and Srinivasan, 1978), and Kansei engineering (Nagamachi, 1995). Kansei engineering was proposed by Nagamachi, and had been increasingly applied to product design and developed since 1970s. The application framework of Kansei engineering had been discussed and extended into services quality design (Hartono and Tan, 2009).

This paper develops a Kansei engineering methodology to help companies better understand how consumer perception on the social website influences consumer intension. The Facebook fan page of Giant Manufacturing Co., the world's largest bicycle manufacturer, is served as the study subject. The questionnaire is designed based on Kansei words collected from different sources and the concept of experiential marketing used to define design elements. Principle component analysis is used to reduce the number of perception variables and then regression analysis is applied to determine the ranking order of perception variables that have impacts on corporate site traffics. The research findings have crucial impacts for companies to improve their Facebook fan page design, increase the page view frequency, and enhance the brand image or recognition.

Literature Review

2.1. Kansei Engineering

Kansei engineering was first proposed from Japanese who calls Nagamachi. Nagamachi introduced Kansei engineering as a powerful product design development methodology which has a strong ability to express consumer emotional needs (Nagachi, 1995). Kansei engineering can be used to translate consumer emotional needs into specific design elements through engineering (Schutte et al., 2004). As a consequence, it can minimize subjectively to explain the emotions or feelings. Moreover, this methodology is able to modify and improve product properties which are not directly detectable or visible, such as atmosphere of environment (Schutte et al., 2008).

Traditional approaches of Kanesi engineering focused only on designing products that generate significant impact on consumer emotional needs. However, in some situations, consumers experience focus not just on physical but non-physical (emotion/feeling) objectives. Therefore, Kansei engineering had to be capable of conducting examination of both product and service characteristics in a single study (Schutte et al., 2004).

There are two phases of Kansei engineering process. In a first phase, consumers obtain Kansei words from website, magazines, journals, and so on, and then reduce words from implementing semantic differential which can currently be considered the most powerful quantitative technique for estimating the affective significance of concepts (Ishihara et al., 1997). In a second phase, after obtaining consumers' affective dimensions (Kansei words), we attempt to find and create the design elements which can influence Kansei words. Since we need to understand consumer perception on Facebook fan page, we used experiential marketing as design elements to see their requirements in different dimensions.

From these reviews, Kansei engineering had been researched and discussed for products and services for many years. Nowadays, the website has become crowded with e-commerce website features that have many players: the big brands, new inventors, network marketing, giant to home businesses. Kansei engineering is essential required on the website to understand human affective responses and needs (Lokman and Noor, 2006). Therefore, this study uses Kansei engineering to focus on the website and tries to obtain the consumer emotional needs which can help company better understand them.

2.2. Experiential Marketing

Experiential marketing related with the marketing of products or services through an experience, such that the consumer becomes emotionally involved with the object of the experience (Mathurs, 1971).

Nagasawa (2008) said experiential marketing is to create consumer experience value by exploring the psychological aspects of the consumers' emotion, which functional values cannot provide. In other words, the functional values give physical requirement and satisfaction, and the experiential marketing provides psychological and emotional

satisfaction. Schmitt (1999) proposed the concept of strategic experiential modules (SEMs) that provide sensory, emotional, cognitive, behavioral, and related values that replace functional values. Pine & Gilmore (1999) thought experiential marketing offerings become increasingly important; it must be made to provide consumers with memorable consumer experiences for achieving the advantages of competition and consumer satisfaction.

Experiences are not an incidental value but an essential value that the products and services are understood from the consumer's viewpoints as these requirements by the company and the brand images. The objective of marketing, which creates "Experiential marketing", is not to provide products and services as tangible objectives to consumers, but to give the internal affect and consumer' lifestyles to consumer. In addition, experience can interpret their behavior by appealing to their senses and feelings in the process (Nagasawa, 2008).

Margaret and Russell (2011) discussed experiential marketing of online shopping and tried to explain consumer's behavioral intention on online. This study uses SEMs to categorize five types of design elements. In the other hand, we extend SEMs from products or services into Facebook fan page design.

Research Methodology

3.1. Research Framework

This study proposes Kansei Engineering methodology. The purpose is to use Kansei words and experiential marketing design elements to identify consumer perception on social media Facebook fan pages.

These design elements are identified based on the SEMs framework (Schmitt, 1999) to manage marketing experience, which includes sensory experience (Sense), affective experience (Feel), cognitive experience (Think), physical experiences、 behavior and lifestyles (Act), and social-identity experiences that result from relating to a community or culture (Relate). Sensory through the concept of multi-sensory vision, hearing, touch, smell to form the experience. With events to stimulate people feel about the event, and provide customers special memories; Emotional experience is a manifestation of emotional heart of the customer. Testers need to know what kind of stimulation can trigger certain emotions and explore the interaction of information to increase customer confidence and attitude; Thinking experience is to encourage customers to perform logical and creative thinking through surprise, inspire, discuss issues, allowing customers to generate interest in solving problems; Action experience is to provide short and long term experience activities, allowing customers to experience through the body, interactive lifestyle or to strengthen and enrich people's lives; Related experience is a combination of the above four, beyond the personal emotions and cognition, increasing the experience of culture from other people, which includes the sense of belonging to groups, cultural values, and social values.

Based on it, first, we collected Kansei words and design elements form website, journals, and papers and delivered the pretest questionnaire to reduce the Kansei words. Second, we created a new questionnaire for combining Kansei words and design elements, and invited three experts to determine the adequacy of items. The

questionnaire involves demographics, strategy experiential modules questions, the four questions for consumer's behavioral intention of Facebook fan page which are intention of browsing fan pages, intention of becoming fans, intention of positive comments, and intention of sharing fan page to friends. A 5 point Likert scale that from strongly agree to strongly disagree was used for evaluating each questions.

The domain was chosen to be use Facebook fan page, and through online questionnaire to deliver on the social media such as fan page, Bulletin Board System (BBS), and Line. Besides, Giant manufacturing company is the one of the most popular company in the world, so we consider the Giant manufacturing company Facebook fan page as the study sample for respondents.

We used SPSS 19 to conduct the reliability analysis, validity analysis, and used SmartPLS 3.0 to conduct the regression analysis to determine the influence between design elements and consumer's behavioral intention of Facebook fan page. Then according to those results, some suggestions are provided to improve Facebook fan page design.
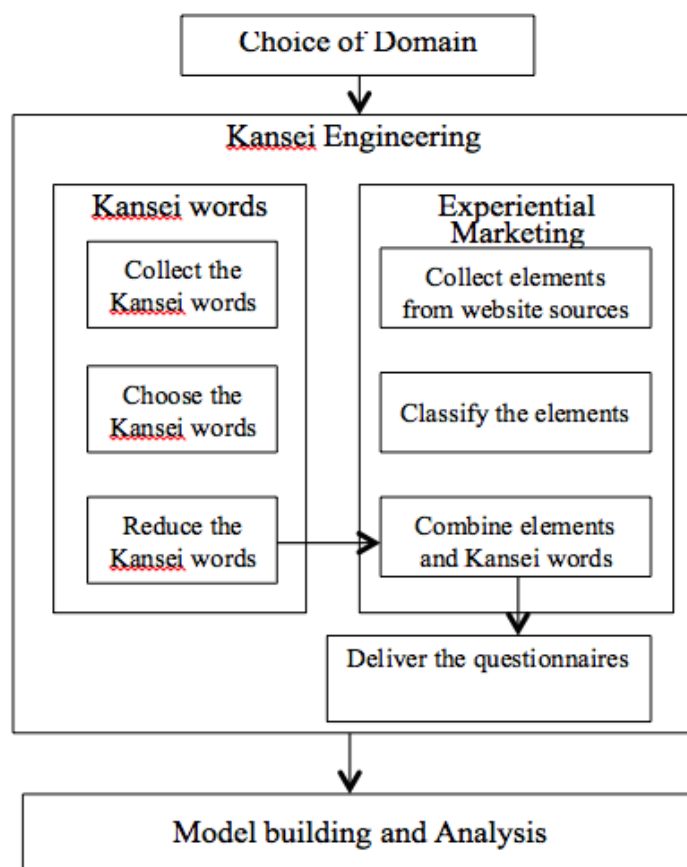
Fig 1. The study framework

3.2. Selected Kansei words

This study collected Kansei words from papers and other sources (Laros & Steenkamp, 2003; Quan & Ren, 2010). Questionnaire survey was used to evaluate the importance of Kansei words which can be used to express Facebook fan page consumers' emotion. According to the respondents, 34 Kansei words were selected.

感動的 (Throbbing)	愉悅的 (Pleasing)	生動的 (Vivid)	很酷的 (Cool)	驚喜的 (Surprise)	幸福的 (Happy)	有趣的 (Interesting)	豐富的 (Abundant)	有創意的 (Creative)
新穎的 (Novel)	親切的 (Kind)	互動的 (Interactive)	吸引的 (Attractive)	美麗的 (Beautiful)	細心的 (Careful)	詳細的 (Detailed)	清楚的 (Clear)	即時的 (immediate)
快速的 (Rapid)	便利的 (Convenient)	良好的 (Good)	完善的 (Perfect)	有用的 (Useful)	有深度的 (Profound)	有價口性的 (Valuable)	知識性的 (Informative)	話題性的 (Controversial)
在地的 (local)	限時的 (Time-Limited)	大型的 (great)	區域性的 (Regional)	熱鬧的 (Lively)	激勵人心的 (Inspiring)	令人興奮的 (Exciting)		

Fig 2. The selected Kansei words

3.3. Strategy Experiential Modules

The questionnaire was designed based on the strategy experiential modules proposed by Schmitt (1999) and combined with the selected Kansei words. It totally has 54 items.

A. Sense experience
1. I think the fan page has vivid profile pictures or cover photos is very important
2. I think the fan page has beautiful profile pictures or cover photos is very important
3. I think the fan page has a clear home page is very important
4. I think the fan page has a beautiful home page is very important
5. I think the fan page has an attractive home page is very important
6. I think the fan page has abundant pictures or videos is very important
7. I think the fan page has vivid pictures or videos is very important
8. I think the fan page has attractive pictures or videos is very important
9. I think the fan page has beautiful pictures or videos is very important
10. I think the fan page share novel posts or blogs is very important
11. I think the fan page share abundant posts or blogs is very important
12. I think the fan page share attractive posts or blogs is very important
13. I think the fan page has a vivid title is very important
14. I think the fan page has an attractive title is very important

B. Feel experience
1. I think the fan page has creative profile pictures or cover photos is very important

2. I think the fan page has a cool home page is very important

3. I think the fan page regularly publish interactive posts is very important

4. I think the fan page regularly publish throbbing posts is very important

5. I think the fan page regularly publish pleasing posts is very important

6. I think the fan page regularly publish happy posts is very important

7. I think the fan page is frequently updated immediate information is very important

8. I think the fan page has a kind reply is very important

9. I think the fan page has a careful reply is very important

10. I think the fan page with detailed profiles (or contact information) is very important

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C. Think experience

1. I think the fan page share interesting links and website is very important

2. I think the fan page share inspiring links and website is very important

3. I think the fan page share profound links and website is very important

4. I think the fan page share valuable links and website is very important

5. I think the fan page publish interesting posts and blogs is very important

6. I think the fan page publish inspiring posts and blogs is very important

7. I think the fan page publish informative posts and blogs is very important

8. I think there fan page conduct controversial investigation is very important

9. I think there fan page conduct interesting investigation is very important

10. I think there fan page conduct useful investigation is very important

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D. Act experience

1. I think the fan page has a rapid reply is very important

2. I think a convenient bridge between the fan page and fans is very important

3. I think a good bridge between the fan page and fans is very important

4. I think the fan page provide prefect services for fans' requirement is very important

5. I think the fan page design interesting game is very important

6. I think the fan page held time-limited online activities is very important

7. I think the fan page held interesting online activities is very important

8. I think the fan page held great online activities is very important

9. I think the fan page held time-limited offline activities is very important

10. I think the fan page held great offline activities is very important

11. I think the fan page held lively offline activities is very important

12. I think the fan page held inspiring offline activities is very important

13. I think the fan page held exciting offline activities is very important

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E. Relate experience

1. I think if joining the fan page can have a good interacting experiences with friends is very important

2. I think if joining the fan page can have a convenient interacting experiences with friends is very important

3. I think if joining the fan page can have a pleasing interacting experiences with friends is very important

4. I think the create regional fan pages (eg: Taipei etc.) is very important

5. I think the fan page has good information about other related fan pages is very important

6. I think the fan page has abundant information about other related fan pages is very important

7. I think the fan page has a local experience (eg: Taipei etc.) is very important

Fig 3. Design elements of SEMs

Analysis and Results

4.1. Data collection

After interview three experts to modify the questionnaire, we delivered the questionnaire on the Facebook platform and Bulletin Board System (BBS). Totally 336 samples had been collected, there were 3 samples are not useful because they did not used Facebook fan page before. Therefore, 333 valid samples were used to do the research and analysis. There are two parts. The first part is experiential marketing questions and the consumer's behavioral intention of Facebook fan page, and totally has 58 questions. The second part is for demographics and totally has 7 questions.

4.2. Reliability Analysis

For reliability analysis, the Cronbach's α value needs to be higher than 0.7. Cronbach's α if item deleted value must be higher than total Cronbach's α value. If not, we would delete the item.

There are 58 items. The Cronbach's Alpha is 0.945 and each item for Cronbach's α if item deleted value is lower than total value. So, these items are very reliable.

Items	Numbers	Cronbach's α
A. Sense	14	
B. Feel	10	
C. Think	10	0.945
D. Act	13	
E. Relate	7	
O. Intention	4	

Table 1. Cronbach's Alpha value of all questions

4.3. Validity Analysis

This study used exploratory factor analysis. Principal components factor analysis was used to obtain the independent dimensions or semantic axes which the consumers to express their emotions in the relation to the objective (Basilevsky, 1994; Flury, 1988). The factors were chosen following the criterion of eigenvalues greater than one. The results were gotten from factor loading of a Varimax rotation of axes. Finally, internal consistency of the dimensions was used to evaluate by Cronbach's Alpha (Streiner, 2003).

Factor analysis reduced the original item from 54 to 43 items because of those items had lower factor loading which were "A3 clear homepage" "A7 vivid pictures" "A9 beautiful pictures" "A10 novel posts" "A12 attractive posts" "B1 creative profile pictures" "B2 cool homepage" "B3 interactive posts" "B10 detailed profile" "D4 prefect services" "D5 interesting games" and classify them to 11 dimensions. Based on the Kaiser-Merer-Olkin Measure of Sampling Adequacy (KMO) is 0.864 and significant is 0.000, also the variance explained is 69.041%, this study is suitable to do factor analysis.

Axes	Items with factor loading	Cronbach's Alpha
1st axis	D10(0.846).D9(0.845).D11(0.837).D13(0.819).D8(0.807). D7(0.769).D12(0.762).D6(0.759)	0.936
2nd axis	C3(0.790).C4(0.745).C7(0.701).C6(0.668).C2(0.620)	0.845
3rd axis	E2(0.751).E1(0.741).E3(0.702).E6(0.638).E5(0.596)	0.842
4th axis	D3(0.712).D2(0.705).D1(0.679).B7(0.600)	0.758
5th axis	C9(0.698).C8(0.686).C10(0.596).C5(0.582).C1(0.541)	0.799

6th axis	B6(0.793).B4(0.784).B5(0.667)	0.771
7th axis	A2(0.808).A1(0.675).A4(0.640).A5(0.574)	0.756
8th axis	A6(0.763).A11(0.758).A8(0.562)	0.709
9th axis	A14(0.822).A13(0.809)	0.775
10th axis	B9(0.818).B8(0.777)	0.816
11th axis	E4(0.805).E7(0.611)	0.624

Table 2. Factor axes with the items and factor loading

Cronbach's Alpha values for 11 dimensions ranged from 0.700 to 0.845, showing that these scales were very reliable. However, the 11 axis "regional fan page and local experience" was lower than 0.7, we decided to eliminate it from the analysis.

Next step was to rename the 10 semantic axes. Axis 1 corresponds to "great and time-limited online/offline activities"; Axis 2 to "profound and valuable links"; Axis 3 to "convenient and good interacting experiences with friends"; Axis 4 to "have a good and convenient bridge between fans and fan pages"; Axis 5 to "conduct an interesting and controversial investigation"; Axis 6 to "happy and throbbing posts"; Axis 7 to "beautiful and vivid profile pictures/homepage"; Axis 8 to "abundant pictures/posts"; Axis 9 to "attractive and vivid title" and finally Axis 10 corresponds to "careful and kind responses to the fans".

Axes	Meaning of Factors
1st axis	Great and time-limited online/offline activities
2nd axis	Profound and valuable links
3rd axis	Convenient and good interacting experiences with friends
4th axis	Have a good and convenient bridge between fans and fan pages
5th axis	Conduct an interesting and controversial investigation
6th axis	Happy and throbbing posts
7th axis	Beautiful and vivid profile pictures/homepage
8th axis	Abundant pictures/posts
9th axis	Attractive and vivid title
10th axis	Careful and kind responses to the fans

Table 3. Meaning of the factor axes

4.4. Partial Least Square (PLS)

Partial least square (PLS) is a method for constructing predictive models when the factors are many and highly collinear that bears some relation to principal components regression. The methodological considerations are relevant to the application of PLS in a management research context: determining the appropriate nature of the relationships between measures and constructs; and interpreting path coefficients, determining model adequacy, and selecting a final model from the available set of alternatives (Hulland, 1999).

The 10 axes were ordered according to the relation with the consumer's behavioral intention of Facebook fan pages using PLS regression. However, we separated the intention into two part; Intention of browsing and intention of becoming fans defined to passive intention; Intention of positive comments and intention of sharing to other people defined to active intention. Therefore, the 10 axes each were tested to influence these two intentions.

Factor ordering according to influence on the passive intention			
Item	Standard Error	T-Statistics	P-value
3. convenient and good interacting experiences with friends	0.074	4.070	0.000
9. attractive and vivid title	0.049	3.407	0.000
10. careful and kind responses to the fans	0.055	2.509	0.006

Factor ordering according to influence on the active intention			
Item	Standard Error	T-Statistics	P-value
1. great and time-limited online/offline activities	0.061	2.742	0.003
6. happy and throbbing posts	0.066	2.413	0.008
7. beautiful and vivid profile pictures/homepage	0.057	1.770	0.039
8. abundant pictures/posts	0.061	1.924	0.028

Table 4. Factor ordering according to influence on the intention of Facebook fan page (regression analysis)

4.5. Results

With the PLS regression, Axis 3 "convenient and good interacting experiences with friends", Axis 9 "attractive and vivid title", and Axis 10 "careful and kind responses to the fans" can influence passive intention. On the other hand, Axis 1 "great and time-limited online/offline activities", Axis 6 "happy and throbbing posts", Axis 7 "beautiful and vivid profile pictures/homepage", and Axis 8 "abundant pictures/posts" can influence active intention. Axis 2 "profound and valuable links", Axis 4 "have a good and convenient bridge between fans and fan pages", and Axis5 "conduct an interesting and controversial investigation" do not have influence on each one. Axis 3 "convenient and good interacting experiences with friends" and Axis 9 "attractive and

vivid title" have the greatest influence on the passive intention with p-value less than 0.000. If companies try to increase the browsing rates and the number of memberships, they need to pay more attention on these two axes. The next important factors are Axis 1 "great and time-limited online/offline activities" and Axis 6 "happy and throbbing posts", and these factors can help enhance the brand images and recognition.

Conclusions

This study proposed a Kansei engineering methodology that analyzes how consumer perception (Kansei words) influences on the consumer's behavioral intention of Facebook fan pages. The PLS was established in the regression analysis which presented the relationship between different semantic axes and the consumer's behavioral intention of Facebook fan pages.

This methodology has been developed using different emotional and functional words to measure the subjective component of the emotional state which consumers are able to recognize. In addition, the emotional attributes were used to find the relationship with design elements defined by consumers. It ensured that the consumer perceptions were really collected and evaluated.

The research findings provide useful information for companies better understanding significant impacts of consumer perceptions and determine suitable strategies to improve the page view frequency as well as enhance brand images or recognition.

Therefore, there are some recommendations for companies. For enhancing consumers' passive intention, companies should establish a platform to let consumers interact with other people and spend more time on making an attractive or vivid title, as well as train employees having attentive and friendly attitude to the fans. For consumers with active intention, companies should hold great online/offline activities, and need to pay more attention for posts, pictures, profile pictures, and homepage.

Finally, the limitations of this study are that there are too many items involved in the questionnaire. We need to reduce some questions which cannot express the consumers requirements and reclassify the items in more appropriate dimensions.

References

Chinese reference

曾華. (2012). 以感性工程與 Kano 模型觀點探討社群媒體的體驗行銷策略-以王品旗下舒果 Facebook 粉絲專頁為例. 中興大學科技管理研究所學位論文, 1-97.

English reference

Akao, Y. (1990). History of Quality Function Deployment in Japan. The Best on Quality, IAQ Book Series Vol. 3. pp. 183-196. International Academy for Quality.

Basilevsky, A. T. (2009). Statistical factor analysis and related methods: theory and applications (Vol. 418). John Wiley & Sons.

BOIK, R. J. (1988). Common Principal Components and Related Multivariate Models.Statistical Foundations of Econometric Modelling, 259.

Green, E. P., & Srinivasan, V. (1978). Conjoint analysis in consumer research: issues and outlook. Journal of Consumer Research, 5(2), 103-123

Hartono, M., & Chuan, T. K. (2009). A proposed framework of Kansei Engineering application in dealing with customer emotional needs in services. In Proceedings of 17th World Congress on Ergonomics.

Hartono, M., & Chuan, T. K. (2011). How the Kano model contributes to Kansei engineering in services. Ergonomics, 54(11), 987-1004.

Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. Strategic management journal, 20(2), 195-204.

Ishihara, S., Ishihara, K., Nagamachi, M., & Matsubara, Y. (1997). An analysis of Kansei structure on shoes using self-organizing neural networks.International Journal of Industrial Ergonomics, 19(2), 93-104.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. Business horizons, 53(1), 59-68.

Laros, F. J., & Steenkamp, J. B. E. (2005). Emotions in consumer behavior: a hierarchical approach. Journal of business Research, 58(10), 1437-1445.

Llinares, C., & Page, A. F. (2011). Kano's model in Kansei Engineering to evaluate subjective real estate consumer preferences. International Journal of Industrial Ergonomics, 41(3), 233-246.

Lokman, A. M., & Noor, N. L. (2006). Kansei engineering concept in E-commerce website. In Proceedings of the First International Conference on Kansei Engineering & Intelligent System KEIS (pp. 117-124).

Luo, M. M., Chen, J. S., Ching, R. K. H., & Liu, C. C. (2010). An examination of the effects of virtual experiential marketing on online customer intentions and loyalty. The Service Industries Journal, 31(13), 2163-2191.

Nagamachi, M. (1995). Kansei engineering: a new ergonomic consumer-oriented technology for product development. International Journal of industrial ergonomics, 15(1), 3-11.

Nagamachi, M. (2002). Kansei engineering as a powerful consumer-oriented technology for product development. Applied ergonomics, 33(3), 289-294.

Nagasawa, S. Y. (2008). Customer experience management: Influencing on human Kansei to management of technology. The TQM Journal, 20(4), 312-323.

Pine, B. J., & Gilmore, J. H. (1998). The experience economy. Harvard Business Review, 76(6).

Quan, C., & Ren, F. (2010). A blog emotion corpus for emotional expression analysis in Chinese. Computer Speech & Language, 24(4), 726-749.

Schmitt, B. (1999). Experiential marketing. Journal of marketing management,15(1-3), 53-67.

Schütte, S. T., Eklund, J., Axelsson, J. R., & Nagamachi, M. (2004). Concepts, methods and tools in Kansei Engineering. Theoretical Issues in Ergonomics Science, 5(3), 214-231.

Streiner, D. L. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. Journal of personality assessment, 80(1), 99-103.

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Factors Influencing the Technology Adoption of Mobile Commerce in Taiwan By Using the Revised UTAUT Model

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Abstract

With the highly growing popularity of smart phones and tablets, the amount of users who use wireless Internet including mobile Internet have reached 11 million in 2013 (TWNIC 2013). Mobile commerce (m-commerce) is regarded as a tremendous market potential for businesses and customers. However, the expected benefits have not yet to be realized. The number of m-commerce services and applications accepted by the customers in Taiwan is still small in comparison with other countries, e.g., Japan and Korea. As a result, it becomes significant for researchers to understand customers' mobile commerce adoption behavior through national culture in Taiwan. This study aims to investigate the factors that predict consumer intention to adopt m-commerce in Taiwan. Based upon the revised UTAUT model, this research used two of Hofstede's cultural dimensions: power distance and uncertainty avoidance as modulators on the UTAUT model to enhance the understanding of influencing users' intention or actual use of m-commerce. In the research, the study sample consists of 300 respondents with using online questionnaires to collect data. The constructs are measured by means of online survey distributed among people who have smart phones or tablets. The SPSS will be used to analyze and explain the meaning of each factor. The conclusion in this study provides a way toward understanding from how much degree of cultural dimensions and trust influence on users adopting m-commerce in Taiwan.

Keywords: M-commerce, User Acceptance, UTAUT, National Culture

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1. Introduction

Since iPhone was launched in 2007, the popularity of smart phones and tablets has been rapidly growing in these years, and these smart mobile devices let mobile commerce (m-commerce) ever-booming. It changes the way people purchase, people can purchase and communicate anywhere, at any time. In contrast with traditional electronic commerce (e-commerce), the key advantage associated with m-commerce is through the use of mobile terminals and networks, users may participate in omnipresent communications without the restrictions of wired solutions. Accordingly, it can be seen that m-commerce significantly enhances user efficiency (Chong, Chan, & Ooi, 2012).

Internet users in Taiwan have been a great number and powerful growth, particularly, Taiwan Network Information Center (TWNIC) pointed out that the amount of users who use wireless Internet including mobile network have reached 11 million in 2013, it increased almost 17.6 % compared to year 2012 (TWNIC 2013). Mobile network has become as one of main means of Internet access due to its rapid growth.

According to the survey of Consumer Barometer 2014, showed in Fig. 1.1, it shows that the proportion of using online purchase by mobile phone has reached to 54% in Taiwan, and it wins the highest rate in the world. Surprisingly, the survey demonstrates that only about 15% of users are satisfied with mobile commerce in Taiwan, it indicates there is still a big room to improve its service for m-commerce providers.
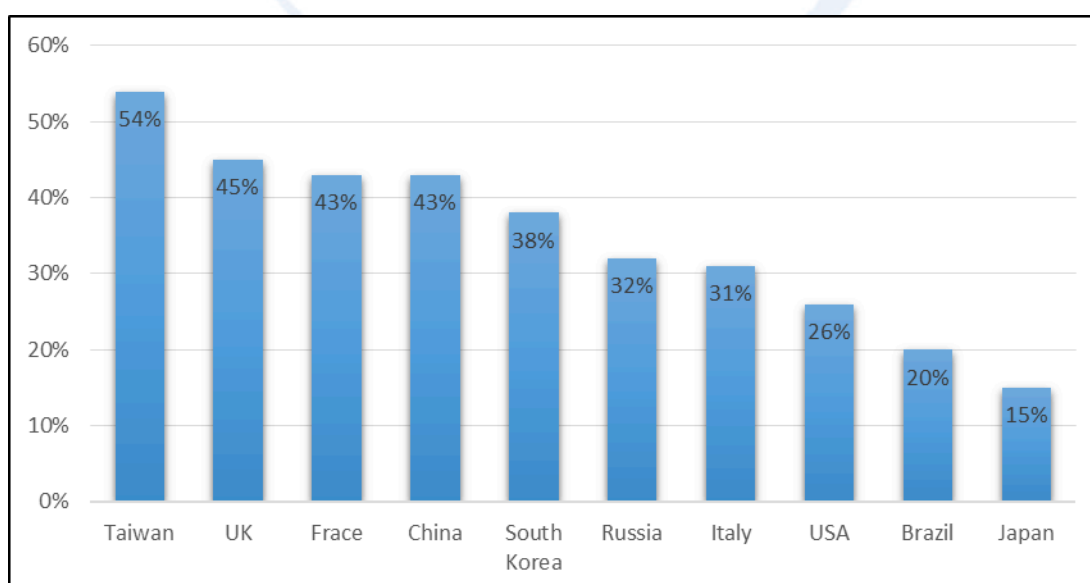
Fig. 1.1 Online purchase - mobile phone, source: Consumer Barometer (2014).

Currently, there exists a number of obstacles and issues in regard to the development of m-commerce, namely the restrictions associated with mobile terminals, e.g. inconvenient input method, limited power, low resolution, and small screen (Alkhunaizan & Love, 2013). Such issues will impact the acceptance of m-commerce amongst potential users of the technology.

In addition to technique issues, user's usage behavior also plays an important role in m-commerce. The scholars presented that cultural characteristics can influence how users accept new technology (Davis, 1989; Venkatesh & Davis, 2000). The global use of wireless technologies adds further complexity to issues in m-commerce. Such complexity derives from the legal, cultural, social, political, and technical differences among countries (Tarasewich, Nickerson, & Warkentin, 2002). Research has shown that cultural aspects influence the typical ways in which web applications are used within a country (Norhayati Zakaria, 2003). As the usage of mobile Internet has spread around the world, culture can have a stronger effect on the ways in which mobile Internet services are used in a country than other technology applications (Lee, 2004).Taking i-mode which was provided by Japan NTT DoCoMo for example, the global mobile pioneer Japan NTT DoCoMo attracted over 45 million subscribers to its i-mode mobile commerce services, it reached almost 80% of the total number of DoCoMo mobile users at that time (Natsuno, 2003). It is believed that the unique Japanese culture is one of the reasons to explain the high market share of i-mode.

1.1 Research Objectives

Nowadays, m-commerce is regarded as a tremendous market potential for businesses and customers. As a result, it becomes significant for researchers to understand customers' mobile commerce adoption behavior and intention. The purpose of this research is to investigate the factors on usage intention within the context of people who have purchased online through mobile devices, e.g., smartphones and tablets.

The objectives of this research are as below:

1. To explore how national culture affects the use behavior of m-commerce by using Hofstede's national culture dimension.
2. To discover the factors which influence users on usage intention of m-commerce.
3. To discuss the impacts of these factors on m-commerce adoption in Taiwan.

2. Literature Review

2.1 Definitions of Mobile Commerce (m-commerce)

Smart phones and tablets have been growing in recent year, these mobile devices are widely accepted due to the convenience. Therefore, mobile commerce has become the latest and popular topic for today. The term Mobile Commerce was created by Kevin Duffey in 1997, he offered the preliminary definition of Mobile Commerce: '' *The delivery of electronic commerce capabilities directly into the consumer's hand, anywhere, via wireless technology*'', and since mobile commerce was new term at that time, Kevin Duffey explained m-commerce as simple definition: '' *A retail outlet in your best customer's pocket*''. There have been several definitions suggested for m-commerce. From narrow definitions, The Durlacher Mobile Commerce Report defines m-commerce as "*any transaction with a monetary value that is conducted via a mobile telecommunication network*". Broadly speaking, (Sadeh, 2003) characterized m-commerce as '' *the emerging set of application and services which people can access from Internet-enabled mobile devices*''. Overall, there are more definitions of m-commerce in detail shown in table 2.1.

After reviewing the definitions of m-commerce from other researchers, this research comment that m-commerce is the extension of e-commerce to mobile devices, i.e., smartphones and tablets, and it includes any monetary transaction of products and service with much simple interface and optimized process for users.

Table 2.1 Definition of m-commerce

Researcher	Year	Definition
Kevin Duffey	1997	The delivery of electronic commerce capabilities directly into the consumer's hand, anywhere, via wireless technology
Muller Veerse	1999	Mobile commerce is a subset of electronic commerce, and any transaction managed through mobile communication network or related to monetary values is considered mobile commerce.
Skiba	2000	M-commerce is "the use of mobile hand-held devices to communicate, inform, transact and using text and data via connection to public or private networks".
Kalle Lyytinen	2001	Mobile commerce involves the use of mobile computing devices in carrying out different types of economic transactions or enabling them to take place over space and time.
Kalevi Kontinen	2001	"the *m* stands for both *mobile* and *multi-modal*, and he identified key features of m-commerce as wireless &

		anywhere & moving".
Carlsson & Walden	2002	Mobile commerce is in many cases of common wisdom (and anecdotal evidence) understood as electronic commerce products and services offered on mobile platforms.
Sadeh	2003	M-commerce is "the emerging set of application and services which people can access from Internet-enabled mobile devices".
Yang	2005	M-commerce is defined as any direct or indirect transaction conducted and facilitated through a wireless telecommunication network.
Tiwari and Buse	2007	M-commerce is "any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and/or completed by using mobiles access to computer-mediated networks with the help of mobile devices''.
Sharma	2009	M-commerce is the subset of e-commerce, which includes all e-commerce transactions, carried out using a mobile (hand held) device.

Wireless communications and services are enabled by the convergence of two technologies, the Internet and wireless technology such as smart phones and tablets. What's more, mobile wireless technologies consist of two aspects—mobility and computing. It's reported that mobile computing represents users' continuous access to network resources without limitation of time and location (Malladi & Agrawal, 2002). Moreover, m-commerce involves the use of mobile computing devices in carrying out different types of economic transactions or enabling them to take place over space and time. Therefore, the two advantages of m-commerce—mobility and reachability have attracted not only many users but also providers' attention in the last few year.

2.2 Hofstede's Cultural Dimensions Theory
User acceptance of technology is a complicated issue, especially when it concern that it is a multi-disciplinary subject pertaining psychological, technical, and social contexts (DL Day, 2006). Particularly, it's more difficult as it considers studying such behavior across more than one cultural background. Technology and culture are not in two parallel lines, instead, they intimately affect each other.

2.2.1   Cultural Dimensions Theory

Hofstede (1984) developed the most influential national culture theory by far, he conducted one of the most comprehensive studies of how values in the workplace are influenced by culture. Hofstede's primary data were extracted from a pre-existing bank of employee attitude surveys undertaken around 1967 and 1973 within IBM subsidiaries in 66 countries. It describes the effects of a society's culture on the values of its members, and how these values relate to behavior. By using a combination of empirical and eclectic analyses, Hofstede created and defined four dimensions of cultural variation - individualism/collectivism, power distance, masculinity/femininity, uncertainty avoidance, and plus Long-Term Orientation which was added in 1991 based on research by (Bond et al., 2004).

There are the definitions and descriptions of five dimensions for Hofstede's cultural dimensions theory as following:

1. Power Distance (PD): *The extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally.* Societies high in power distance are more autocratic and accept differences in power and wealth more readily than societies low in power distance. In contrast, Low power distance societies are less tolerable, and democratic participation is encouraged.

2. Uncertainty Avoidance (UA): *The degree of how societies accommodate high levels of uncertainty and ambiguity in the environment* (Hofstede, 1984). People in high uncertainty avoidance culture tend to be more emotional. They try to minimize the occurrence of unknown and unusual circumstances and to proceed with careful changes step by step planning and by implementing rules, laws and regulations. On the contrary, Societies low on this factor work to meet basic needs, are tolerant of various behaviors, and feel relatively secure. In some research, it indicated that UA is expected to be intimately associated with trust.

3. Individualism (IDV): *The "relationship between the individual and the collectivity which prevails in a given society* (Hofstede, 1984). In high individualism societies have loose ties among me mbers-everyone looks after his or her own interests and those of the immediate family. Societies low in individualism, hold group values and beliefs and seek collective interests.

4. Masculinity (MAS): *The distribution of roles between the genders to the extent that it is characterized by male or female characteristics* (Hofstede, 1984). More masculine societies place greater value on achievement, tasks, money, performance, and purposefulness, whereas more feminine ones emphasize people, the quality of life, helping others, preserving the environment, and not drawing

attention to oneself.

5. Long-term Orientation (LTO): *Long-term time orientation are posited to place great significance on the values of thrift, persistence, and long-term alliances* (Hofstede, 1984), this involves the fostering of virtues oriented towards future rewards. Long-term oriented societies attach more importance to the future. They foster pragmatic values oriented towards rewards, including persistence, saving and capacity for adaptation. In short term oriented societies, values promoted are related to the past and the present, including steadiness, respect for tradition, preservation of one's face, reciprocation and fulfilling social obligations.

2.3 Unified Theory of Acceptance and Use of Technology Model (UTAUT)

With quick expansions of wireless and mobile technology, Wireless technology has become an integral part of our life in the form of the mobile phone and mobile computing devices. However, there is still few research to identify the factors that affect customer intention to use m-commerce. Therefore, there is need for researchers to concentrate on how users apply and adapt for new technology.

Concerning with the research of technology acceptance behavior, the unified theory of acceptance and use of technology (UTAUT) is a technology acceptance model which is based on eight technology acceptance theories or models and formulated by Venkatesh in 2003. The purpose of UTAUT model is to explain user intentions to use an information system and subsequent usage behavior (Venkatesh, Morris, Davis, & Davis, 2003). The UTAUT model draws on the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model (MM), the Theory of Planned Behaviour (TPB), the combined TAM and TPB (C-TAM-TPB), the model of Personal Computer Utilization (MPCU), the Innovation Diffusion Theory (IDC) ,and the Social Cognitive Theory (SCT) (Venkatesh et al., 2003). This research will review these important theories and models which were integrated with UTAUT.

The theory of reasoned action (TRA) was developed by (Fishbein & Ajzen, 1975). This theory is a well-established model that has been used broadly to predict and explain human behavior in various domains (Chen, Gillenson, & Sherrell, 2002). TRA predicts that behavioral intent is created or caused by two factors: our attitudes and our subjective norms. After that, in 1989, Davis developed the Technology Acceptance Model (TAM) which was originated from TRA. TAM predicts acceptance based on the end-user's perceived usefulness (PU) and perceived ease of use (PEOU) of the technology for a specific purpose. What's the difference between

TRA and TAM, TAM replaces many of TRA's attitude measures with the two technology acceptance measures— ease of use, and usefulness. TRA and TAM, both of which have strong behavioral elements, assume that when someone forms an intention to act, that they will be free to act without limitation. In the real world there will be many constraints, such as limited freedom to act (Bagozzi, Davis, & Warshaw, 1992). However, the most commonly reported limitation of TAM is the measurement of usage by relying on respondents' self-reporting and assuming that self-reported usage reflects actual usage, another shortcoming is that TAM provides only limited guidance about how to influence usage through design and implementation (Taylor & Todd, 1995; Venkatesh et al., 2003). To compensate with TAM, TAM2 is an extension of TAM introduced by (Venkatesh & Davis, 2000). Venkatesh and Davis made two processes on TAM2, the Social Influence Processes (Subjective Norm, Voluntariness, and Image) and the Cognitive Instrumental Processes (Job Relevance, Output Quality, Result Demonstrability, and Perceived Usefulness), were integrated into this model.

These two processes were considered to be crucial to the study of user acceptance. According to the research, the models of TAM and TAM2 account for only 40% of a technological system's use (Legris, Ingham, & Collerette, 2003). Then, (Venkatesh et al., 2003) found that IS or IT researchers were confronted with a choice among a multitude of models and were bound to choose constructs across models or choose a favored model, thus ignoring the contribution from alternative ones. They felt the need for a synthesis in order to reach a unified view of users' technology acceptance. UTAUT integrated advantages of each theories and models, and constructed to develop a whole new model. Unlike TAM and TAM2, UTAUT can account for an impressive 70 percent of the variance in behavioral intention and about 50 percent in actual use (Venkatesh, Thong, & Xu, 2012).

UTAUT was developed from the eight dominant models that have been used to explain technology acceptance behavior, also, UTAUT sorted out the four factors which can affect on use intention and behavior.

UTAUT assumes that four constructs act as determinants of behavioral intention and usage behavior, the constructs in the model were defined and related to similar variables in the eight models as follows:

1.   Performance Expectancy (PE): *The degree to which an individual believes that using the system will help him/her to attain gains in job performance*

(Venkatesh et al., 2003). The constructs in the other models that pertain to performance expectancy are: perceived usefulness (TAM, and combined TAM-TPB), extrinsic motivation (MM), job-fit (MPCU), relative advantage (DOI), and outcome expectancy (SCT). This construct, within each individual model, was the strongest predictor of intention and remained significant at all points of measurement in both voluntary and mandatory settings. The model hypothesizes that the degree of which performance expectancy directly influence behavioral intention and be moderated by gender and age. Some researches about gender differences demonstrate that men's motivation to accomplish tasks is much stronger. As for age, related researches show that younger people have stronger performance expectancy than older people (Venkatesh et al., 2003).

2. Effort Expectancy (EE): *The degree of ease associated with the use of system* (Venkatesh et al., 2003). The constructs in the other models that capture the same concept are: perceived ease of use (TAM), and complexity (DOI and MPCU). The construct in each individual model was significant in both voluntary and mandatory settings, and as expected from the literature it was significant only during the post training measurement. Effort expectancy will be influenced by gender, age, and experience. As for gender, the research of Venkatesh and Morris shows that women have stronger effort expectancy than men (Venkatesh, Morris, & Ackerman, 2000).

3. Social Influence (SI): *The degree to which an individual perceives that important others believe he/she should use the new system* (Venkatesh et al., 2003). The constructs are represented in following models: subjective norms (TRA, TAM2, TPB/DTPB, and combined TAM-TPB), social factors (MPCU), and image (DOI).

These three constructs are about the influence of organizations, supervisors, and other people in a group, so they put them together to predict the impact of the psychological phase (Venkatesh et al., 2003).Social influence will be influenced by all moderators, which are gender, age, experience, and voluntariness of use. In other research, they suggest that women will be more aware of opinions from other people, and their intention toward using a system will be stronger (Miller, 2012; Venkatesh et al., 2000). As for age, from UTAUT, they found that elder people tend to be more sensitive to social influence, but the effects decline with experience.

4. Facilitating Conditions (FC): *The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.* (Venkatesh et al., 2003). This definition catches three different constructs

in existing models: perceived behavioral control (TPB/DTPB and combined TAM-TPB), facilitating conditions (MPCU), and compatibility (DOI).This construct is different from the other three. Facilitating conditions doesn't affect the intention behavior, but directly influences the user behavior. Facilitating conditions will be moderated by age and experience. According to UTAUT, the effect of age and experience will be stronger for elder workers, particularly with increasing experience.

According to (Venkatesh et al., 2003), the UTAUT model has four moderators: gender, age, experience and voluntariness. UTAUT proposed that gender would moderate the effect of performance expectancy, effort expectancy, except for social influence. As for gender, UTAUT expected male to be more likely to rely on performance expectancy when determining whether or not to accept a technology due to their highly task oriented nature. Differently, the technology acceptance for female may be determined by effort expectancy rather than performance expectancy.

In table 2.4, it's the description of key determinants and moderators in the UTAUT. In figure 2.1 shows the proposed model of UTAUT.

Table 2.4 Description of key determinants and moderators in the UTAUT

	Variables	Description
Key constructs	Performance expectancy	The degree to which an individual believes that using the system will help him/her to attain gains in job performance.
	Effort expectancy	The degree of ease associated with the use of system.
	Social influence	The degree to which an individual perceives that important others believe he/she should use the new system.
	Facilitating conditions	The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.
Moderators	Gender	Male, Female
	Age	Continuous
	Experience	Ordinal
	Voluntariness of use	A categorical variable
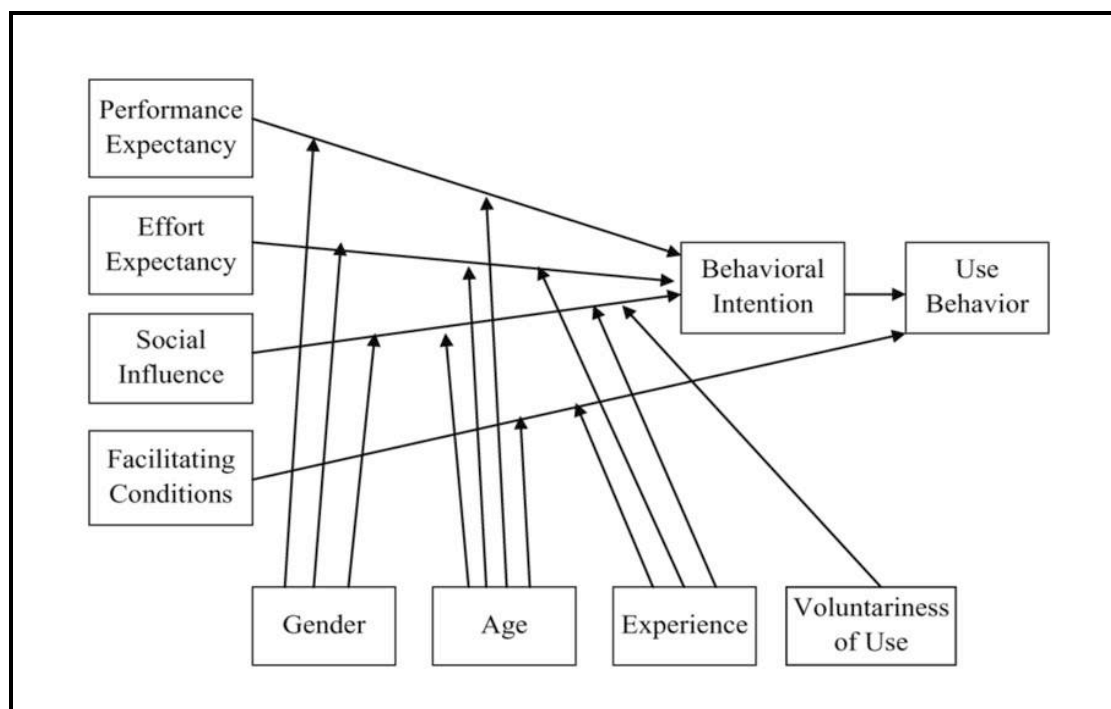
Source: (Venkatesh et al., 2003)

Fig 2.1 Proposed model of UTAUT

3.   Research Methodology

3.1 Research Framework and Model

From above literature review, it is clear that there will be many factors impacting on the adoption of m-commerce still need to be found, and the model constructs need further to be tested. This research focuses on discovering the factors which influence users on usage intention of m-commerce, finds out the behavior of adopting m-commerce and acceptance of m-commerce, and also tries to test and modify the constructs of UTAUT model in the context of Taiwan. Based on these characteristics, this study applied the UTAUT model which was proposed by (Venkatesh et al., 2003). UTAUT model is a more complete model of technology acceptance, and it discusses more factors about the acceptance of new technology. Due to the characteristics of this research, UTAUT is adjusted and revised a little bit to fit the study.

The model of this research revised the original UTAUT model proposed by (Venkatesh et al., 2003). First, it tests the behavior and acceptance of new technology in a different time in UTAUT. This research belongs to cross sectional research, and data collected at one time. Second, this research aims to discover the factors which

influence users on usage intention of m-commerce, there are four independent variables (trust, performance expectation, effort expectation, social influence), and two moderating variables (power distance, uncertainty avoidance). The adjusted model is shown in Fig 3.1.
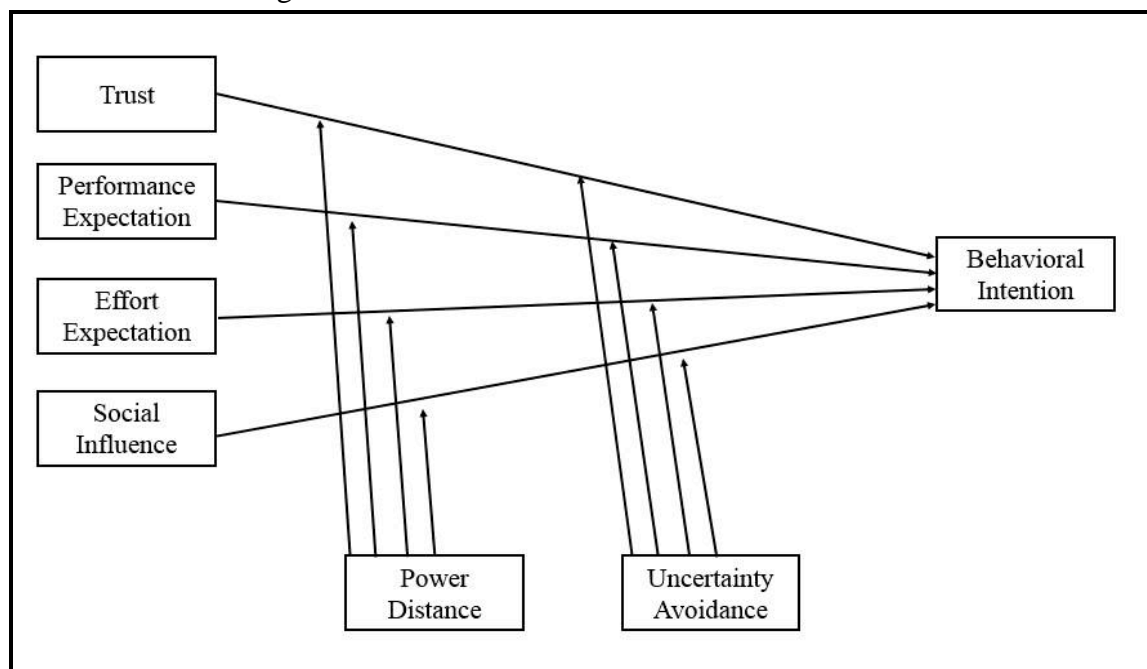
Source: (Venkatesh et al., 2003)

Fig. 3.1 Revised UTAUT model

3.2 Variables and Research Hypotheses

According to the original UTAUT formulation, we revised the UTAUT model. There are four independent variables, one dependent variable and two moderating variables. Independent variables are trust, performance expectation, effort expectation, social influence. Dependent variable is the behaviroal intention to use m-commerce by mobile devices. Moderating variables are power distance and uncertainty avoidance. We suggest the following hypotheses regarding the beharioral intention to use m-commerce by mobile devices, and the relationship between moderating variables and independent variables:

H1. Trust will significantly influences the behavioral intention to use m-commerce by mobile devices.

H2. Performance expectation will significantly influence the behavioral intention to use m-commerce by mobile devices.

H3. Effort expectation will significantly influences the behavioral intention to use m-commerce by mobile devices.

H4. Social influence will significantly influences the behavioral intention to use

m-commerce by mobile devices.

H5a. Power distance has a negtive relationship with trust to adopt m-commerce.

H5b. Power distance has a negtive relationship with performance expectation to adopt m-commerce.

H5c. Power distance has a negtive relationship with effort expectation to adopt m-commerce.

H5d. Power distance has a negtive relationship with social influence to adopt m-commerce.

H6a. Uncertainty avoidance has a positive relationship with trust to adopt m-commerce.

H6b. Uncertainty avoidance has a positive relationship with performance expectation to adopt m-commerce.

H6c. Uncertainty avoidance has a positive relationship with effort expectation to adopt m-commerce.

H6d. Uncertainty avoidance has a positive relationship with social influence to adopt m-commerce.

3.3 Questionnaire Design

A quantitative approach has been adopted in this paper, the questionnaire design is based on the UTAUT and Hofstede's cultural dimensions theory.

The survey questionnaire consisted of eight parts. The first part is demographic information. The other parts are factors of using m-commerce, the variables are performance expectancy (PE), effort expectancy (EE), social influence (SI), trust (TT), and behavioral intention (BI), Moderated variables are power distance (PD), and uncertainty avoidance (UA). Data were collected using a five point Likert-type scale, from totally disagree to totally agree. The items measuring three factors of UTAUT and behavioral intention were adapted from (Venkatesh et al., 2003).

3.4 Data Collection

To collect related data and test hypotheses, we use survey method for this research. The empirical data was collected through online survey, and the questionnaires were responded by users on different online platforms. We targeted people who had used m-commerce before in order to add the validity. To increase the response rate, we gave virtual money as incentives to respondents. The samples have been randomly selected, and all of them are anonymous.

4. Prospective Conclusion

This research investigate the factors influencing the technology adoption of mobile commerce in Taiwan. The prospective results will show the factors such as trust, social influencing, performance expectation, effort expectation, and convenience have a significant relationship with consumer decisions to adopt m-commerce. For moderating variables, the results of power distance and uncertainty avoidance provide some suggestions for mobile commerce service providers to improve its service for Taiwanese.

References

Alkhunaizan, A., & Love, S. (2013). Effect of Demography on Mobile Commerce Frequency of Actual Use in Saudi Arabia. In Á. Rocha, A. M. Correia, T. Wilson, & K. A. Stroetmann (Eds.), *Advances in Information Systems and Technologies* (pp. 125–131). Springer Berlin Heidelberg.

Bagozzi, R. P., Davis, F. D., & Warshaw, P. R. (1992). Development and Test of a Theory of Technological Learning and Usage. *Human Relations*, *45*(7), 659–686.

Bond, M. H., Leung, K., Au, A., Tong, K.-K., Carrasquel, S. R. de, Murakami, F., … Lewis, J. R. (2004). Culture-Level Dimensions of Social Axioms and Their Correlates across 41 Cultures. *Journal of Cross-Cultural Psychology*, *35*(5), 548–570.

Chen, L., Gillenson, M. L., & Sherrell, D. L. (2002). Enticing online consumers: an extended technology acceptance perspective. *Information & Management*, *39*(8), 705–719.

Chong, A. Y.-L., Chan, F. T. S., & Ooi, K.-B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, *53*(1), 34–43.

Consumer Barometer. (2014). Retrieved April 11, 2015, from https://www.consumerbarometer.com/en/insights/?countryCode=TW

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340.

DL Day. (2006). Cultural Aspects of User Interface Acceptance. In *International Encyclopedia of Ergonomics and Human Factors, Second Edition - 3 Volume Set* (Vols. 1–0). CRC Press.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: an introduction to theory and research*.

Hofstede, G. (1984). Cultural dimensions in management and planning. *Asia Pacific Journal of Management*, *1*(2), 81–99.

Lee, I. (2004). Cross-cultural Comparison for Cultural Aspects of Mobile Internet: Focusing on Korea and Hong Kong.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & Management*, *40*(3), 191–204.

Malladi, R., & Agrawal, D. P. (2002). Current and Future Applications of Mobile and Wireless Networks. *Commun. ACM*, *45*(10), 144–146.

Miller, J. B. (2012). *Toward a New Psychology of Women*. Beacon Press.

Natsuno, T. (2003). *i-mode Strategy* (1 edition). Chichester ; Hoboken, NJ: Wiley.

Norhayati Zakaria, J. M. S. (2003). Designing and implementing culturally-sensitive IT applications: The interaction of culture values and privacy issues in the Middle East. *IT & People*, *16*, 49–75.

Sadeh, N. (2003). *M-Commerce: Technologies, Services, and Business Models*. John Wiley & Sons.

Tarasewich, P., Nickerson, R. C., & Warkentin, M. (2002). Issues in Mobile E-Commerce. *Communications of the Association for Information Systems*, *8*(1).

Taylor, S., & Todd, P. (1995). Assessing IT Usage: The Role of Prior Experience. *Management Information Systems Quarterly*, *19*(4).

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, *46*(2), 186–204.

Venkatesh, V., Morris, M. G., & Ackerman, P. L. (2000). A Longitudinal Field Investigation of Gender Differences in Individual Technology Adoption Decision-Making Processes. *Organizational Behavior and Human Decision Processes*, *83*(1), 33–60.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425–478.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). *Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology* (SSRN Scholarly Paper No. ID 2002388). Rochester, NY: Social Science Research Network.

Kevin Duffey. (1997). "Global Mobile Commerce Forum" in Heathrow Hilton, UK.

Discovering Microfluidics Technology Opportunity Using Patent Analysis

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Official Conference Proceedings

Abstract

Recent trends of technology innovation emphasize the notion of dominant designs for next-generation products. Technology-based firms, especially in biotechnology field, have to spend plenty of resources in R&D in order to identify appropriate technology opportunities for sustaining their competitive advantages. To help SMEs to discover new technological opportunities with a relative lower cost, this paper applies a keyword-based patent map approach to analyze patent database, allowing them to find the valuable opportunities. According to literature and current patent analysis, Chip substance manufacture technology is one of the most important technologies and is used as case substance.

The methodology used to find bio-technological opportunities comprise three stages. In the first stage of patent collection, we find experts to analyze the company's current products and technologies and use patent search engine and forward citation to find related patents. Experts are requested to define several keywords for the technology and filter patents which have low frequency of these keywords. In the second of patent analysis, we use text mining to excavate the frequency of the keywords and map them by principal component analysis. The final stage of opportunity analysis is to define the vacancy on the map and list all the patents around them. And then, critical analysis and trend analysis are used to evaluate the value of the vacancy.

According to the patent analysis, we have found that chip substance manufacture technology is still in the growth stage and there are several potential technological opportunities for further exploration.

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1. Introduction

Recent trends of technology innovation emphasize the notion of dominant designs for next-generation products thus technology opportunity identification is thought to be the curtail process in many companies. Technology-based firms, especially in biotechnology field, have to spend plenty of resources in R&D in order to identify appropriate technology opportunities for sustaining their competitive advantages. This puts a great challenge for SMEs which usually have severe capability and resource constraints (Yongho Lee, 2014).

Microfluidic biochip is the second generation biochip which is believed to be one of the greatest challenges in the century (Juan G. Santiago, 2015). Traditionally, people required a whole laboratory to do disease detection and analysis. The experiment usually spent lots of materials, equipment and human resources. Microfluidic biochip can narrow the whole laboratory into one small chip which is also called lab-on-chip. With less material cost and higher degree of accuracy, microfluidic biochip is now become one of the most popular issue in biotechnology field.

This paper applies a keyword-based patent map approach (Sungjoo, 2009) to analyze patent database to help biochip firms for discovering new technological opportunities. The method can divide into three parts: patent collection, patent analysis and opportunity analysis. All the patents are found from the USPTO database and the keywords are extracted by Text Mining (Tan, 1999). PCA is used to merge keywords into several axes which are used to map the patents. Finally, experts are required to identify the vacancy/opportunity and analysis the patents around it.

2. Methodology

2.1. Research Framework

In this research, we apply a keyword based patent analyze method developed by Sungjoo (Sungjoo, 2009) to find the possible technology opportunities. The whole research is composed by three parts; they are patent collection, patent analysis and opportunity analysis. At the beginning, we will analyze the technology, product and capability of the target company and investigate the current technology trend to identify the most promising technology which is worth to be invested. Then, we search patents related to the selected technology from Unite States Patent and Trademark Office (USPTO) patent databases. The key words which can represent those patents are extracted from the description part of the patents by Text Mining

(TM) and important keywords are selected by experts. After that, we use Principle Component Analysis (PCA) to map those patents filtered by selected keywords. At the end, we will try to discover the technology opportunities by analyzing the patents around the possible vacancies.
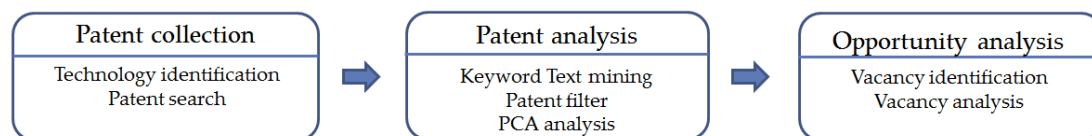
Figure 1. Research framework

2.2. Patent Collection

With different resources, organizational structure, and business strategy, companies have their advantages and limitation. In order to help companies to find the most promising technology which can fit both the company's advantage and the future market, we first analyze the technology, product and capability of the company and the current technology trend. After the investigation, we identify the most promising technology which is worth to be developed. With the analysis of the technologies, we can find several attributes such as materials, application and forms, which can characterize the technology. Experts are required to analyze the technology for the target company and find the key attributes. Those attributes are used in patent search in USPTO patent databases.

Patents found in USPTO patent databases by those attributes may not include all the patents related to the technology. Some patents with this technology may use similar words to describe those attributes. In order to find all the patents related to the select technology, we use forward citation to find the patents which cite the patents we have already found.
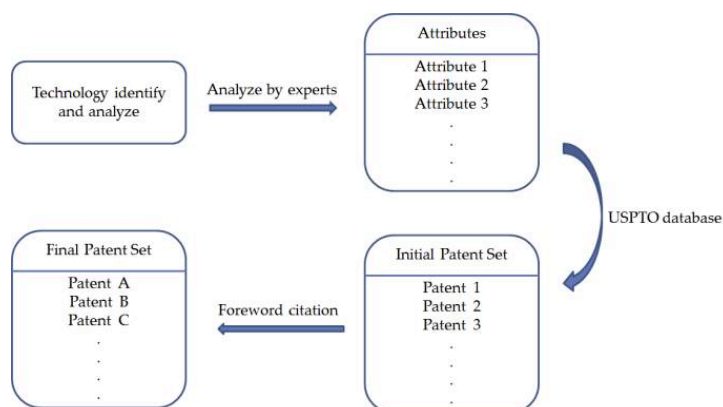
Figure 2. Patent collection process

2.3. Patent Analysis

Patents contain much information such as technology details, applications and relationships, but the information is unstructured which may not allow people to analyze directly. To solve this difficulty, Text Mining, the method of deriving high-quality information from text, is applied to translate unstructured information into structured data.

The words extracted by Text Mining may include lots of conjunction words and common words which don't contain useful information. To delete those redundant words, we use term frequency (TF) and frequency–inverse document frequency (TF-IDF) to preliminary filter the words and then we find experts to do further selection to find the keywords that may be useful to opportunity discovery. Those keywords will be used to re-filter the patents we have found through patent search and patent foreword citation because there might be some patents which have little or no relation with the target technology. After selection, the left patents are thought to include all the patents highly related to target technology.

To analyze the relationship between patents, we use Principal Component Analysis (PCA) to merge the keywords into several principal components. Each of the two components is used as the X-Y axis with the patents map on it. With the permutation and combination, there may be many patent maps. The distance between two patents may represent the relationship between patents.
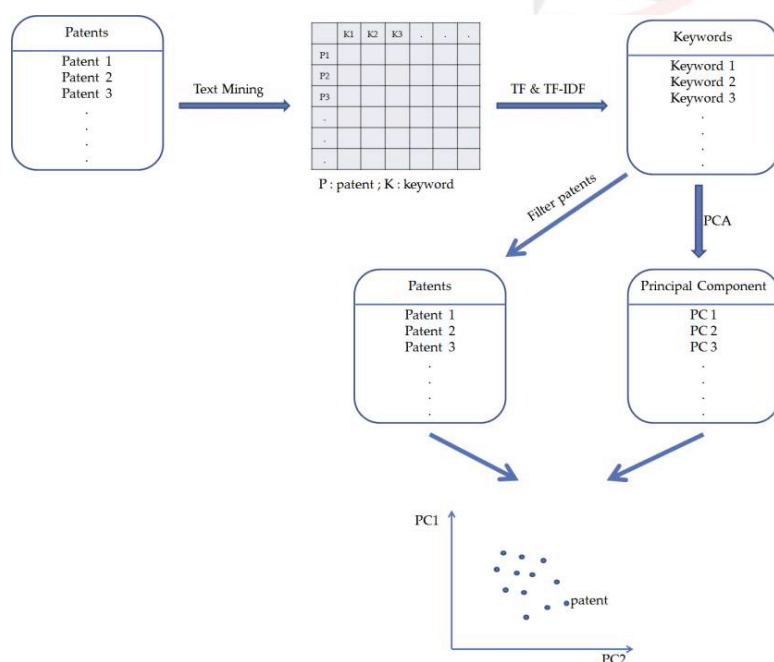
Figure 3. Patent analysis process

2.4. Opportunity Analysis

After map all the patents on the patent map through PCA, we can identify the vacancy on the patent map. Each vacancy may represent a possible technology opportunity, but the accuracy needs further examination. Until now, there is still no standard way to identify the vacancy. The most common way to identify the vacancy is to find experts, relying on their professional knowledge. Here, we decide to find experts to identify the vacancies just like previous researches.

With the identification of the vacancy, patents around them are listed and used to evaluate the accuracy of the opportunity. This is because that the patent map is just a two-axis map, the distance between patents may not be the real distance in the multi-dimension patent map. The patents around the vacancy can be used to determine potential technological opportunities.
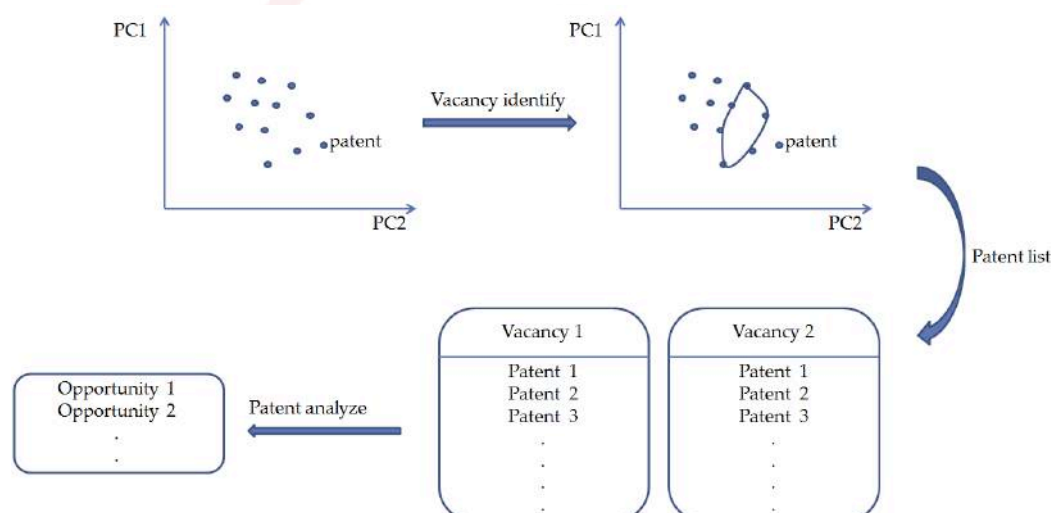
Figure 4. Opportunity analysis process

3. Illustrate Example

This research applies the keyword based patent analysis to the area of microfluidic biochip. Microfluidic biochip is the second generation biochip which is believed to be one of the greatest challenges in the century. With the increasing life quality, people are more willing to pay attention on preliminary disease diagnosis. Thus, rapid disease detection became one of the most popular issues in recent years. With the growing market all around the world, more and more companies try to get involved into microfluidic biochip manufacture. This is the main reason we decide to use microfluidic biochip as the illustrate example.

3.1. Patent Collection

According the second hand data and previous research, we found that microfluidic composed by five sub-technologies (Alliance of Microfluidic production techniques, 2014). They are chip manufacture, fluid and ion control, surface and detection, integration and package and sensor. Each sub-technology contains several different parts (Fig.5). In order to find the most promising technology, we use patent trend to analyze all the sub-technologies (Fig.6). All the patents are found in USPTO from 2000 to 2014. After analyzing the patent trend, we decide to choose "micro valve" as the target technology. In order to make sure whether there are other words have similar meaning with micro valves, we seek advices from experts and search information from previous research. The result shows that there is no similar word with micro valve.

Chip manufacture	Surface & Detection
Lithography	Surface Engineering
Rapid Prototyping	Surface Characterization
Deep reactive ion etching	Infrared thermal imaging
Hot Embossing	Integration and package
E-beam evaporation	Bonding
Fluid and ion control	Macro-to-Micro Coupling
Microvalves	Computational Simulations
Electrokinetic switching	Highly Integrated microfluidic chip
Digital microfluidics	Sensor
Dielectrophoresis manipulation	Biomedical Sensing
Optical tweezers	Micro Cantilever for bio-sensing

http://mbl.pme.nthu.edu.tw/mftc/big5.php

Figure 5. Microfluidic sub-technologies
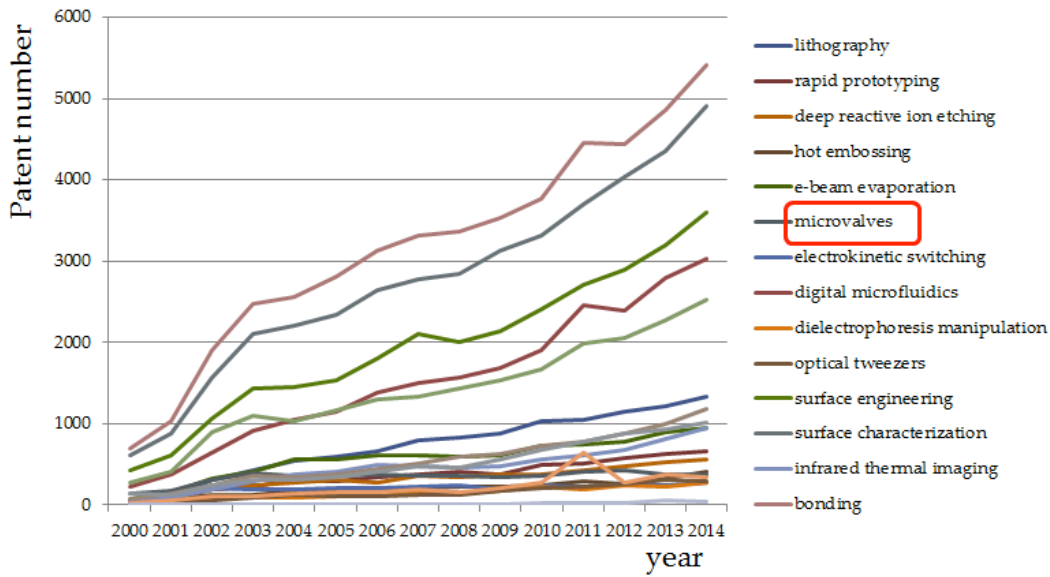
Figure 6. Patent trend of microfluidic sub-technologies

Patents with the keyword "microfluidic micro valve" were searched from the USPTO patent databased and there are total 1429 patents found from 1990 to 2014. These patents may not include all the patents related to micro valve so we use foreword citation to do further collection. There are 915 patents found through foreword citation with the total patent number 2344 (Fig.7).

Figure 7. Patents search from USPTO database

3.2. Patent Analysis

Patents contain information including many claims, each of which defines a specific property right. However, most of the information is unstructured data which is not easy to analyze them directly. In order to systematically analyzing the unstructured information, Text Mining is used to translate unstructured information into structured data. Text Mining can extract words from the patent documents and list them through

term frequency (TF) or term frequency inverse document frequency (TF-IDF). After Text Mining, there are about 85838 words extracted from the 2344 patents (Fig.8). Those words contain lots of conjunction words, common words and redundant words which need to be deleted.
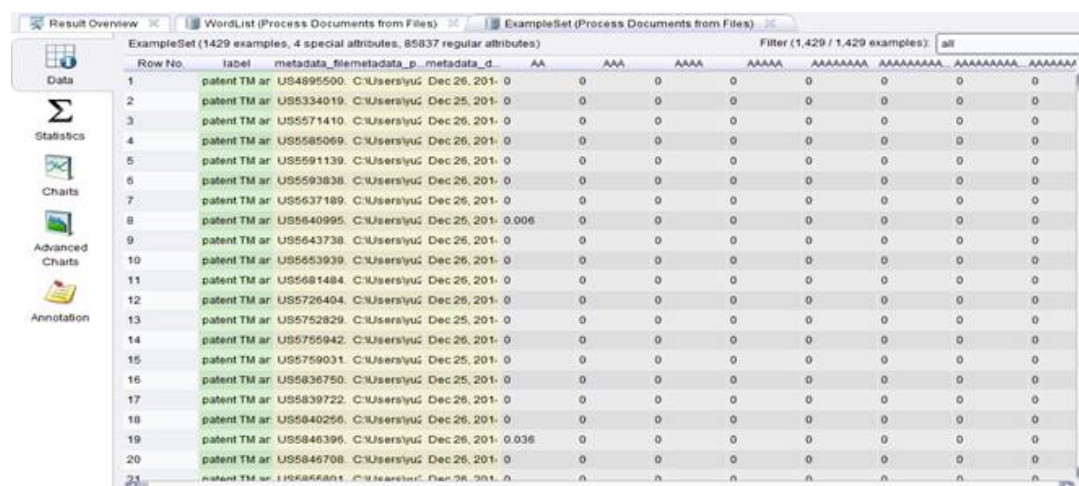
Figure 8. Words extracted by Text Mining using RapidMiner

To filter these words, we use term frequency (TF) and term frequency inverse document frequency (TF-IDF) to do the first selection. This selection will repeat several rounds. In each round, the top 50% of the word lists based on TF and TF-IDF will be compared with each other and the word which involved both in both lists of TF and TF-IDF will be kept. After 5 rounds selection, there are 25 words left. They are oxygen, membrane, MEMs, sensor, stream, porous, ICL, cornea, intraocular, conjunctiva, lid, osmotic, pump, bearing, JR, plastic, separation, nucleic, cartridge, MOVe, tubing, elastomeric, amplification, electric and gel. Although TF and TF-IDF are often used in keyword selection for many years, there are still some limitations. The high TF or TF-IDF words may still be redundant words. In order to do further examination, we find experts to evaluate the 25 words and delete the redundant words. In this selection, 12 keywords are filtered eventually. They are MEMs, membrane, porous, osmotic, ICL, cornea, intraocular, conjunctiva, pump, elastomeric, electric and gel (Fig.9).

MEMs	ICL	Pump
Membrane	Cornea	Elastomeric
Porous	Intraocular	Electric
Osmotic	Conjunctiva	Gel

Figure 9. Twelve selected keywords

The 12 keywords are thought to represent the key attribute of the micro valve technology. We use these keywords to re-filter the 2344 patents we have found in USPTO databases to delete the patents which have low or no relation to micro valve technology. Patents which did not include any one of the 12 keywords will be deleted. Finally, there are 465 patents left.

Next step is to find the relationship between the 465 patents. We use Principal Component Analysis (PCA) to achieve this goal. The patent-keyword matrix is used as the input data. After PCA, the 12 keywords are merged into 4 principal components with the cumulative percentage 83.966 (Fig.10). According to the definition and previous research, the value of cumulative percentage should be higher than 80% with sometimes 70% is also acceptable. The four principal components are named tonometer system (A system to measure the pressure by the moving distance on the cornea), membrane system (A system to filter materials through membranes), osmotic pump (A kind of pump which push fluid through osmotic) and gel electrophoresis (A method to separate materials by electromotive force through electric charge, size and structure) (Fig.11). The four principal components will be used as the X-Y axis to form the patent map. With the permutation and combination, there are 6 different patent maps (Fig.12). The distance between patents represents the strength of the relationship. A short distance between two patents means they are closely related.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.027	33.552	33.552	4.027	33.552	33.552	4.009
2	2.681	22.339	55.901	2.681	22.339	55.901	2.642
3	1.956	16.299	72.200	1.956	16.299	72.200	1.804
4	1.412	11.766	83.966	1.412	11.766	83.966	1.789
5	.922	7.685	91.651				
6	.463	3.861	95.512				
7	.395	3.290	98.802				
8	.117	.978	99.780				
9	.022	.182	99.962				
10	.004	.037	100.000				
11	3.768E-5	.000	100.000				
12	-3.900E-16	-3.250E-15	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Figure 10. Total variance explained

	Component			
	1	2	3	4
ICL	.999	-.014	-.027	-.159
cornea	.999	-.015	-.028	-.160
intraocular	.996	-.016	-.029	-.169
conjunctiva	.992	-.014	-.027	-.157
MEMBRANE	-.015	.972	-.027	-.154
MEMs	-.015	.972	-.027	-.154
POROUS	-.017	.843	-.029	-.166
PUMP	-.028	-.030	.970	-.049
OSMOTIC	-.022	-.024	.969	-.093
ELASTOMERIC	-.086	-.075	-.061	.863
ELECTRIC	-.120	-.125	-.124	.824
GEL	-.114	-.131	.009	.419

- PC1: Tonometer system

- PC2: membrane system

- PC3: Osmotic pump

- PC4: Gel electrophoresis

Figure 11. Four principal components

252

Fugure 12. Six patent maps created by PCA

3.3. Opportunity Analysis

After mapping all the patents on the 6 patent several maps, we can discover possible vacancies. From previous research, we found that there is no effective way to identify the vacancy. Most of the researchers rely on the experts' professional knowledge to identify possible vacancies. In this research, we also find some experts to help us to identify the possible vacancies. In this 6 patent maps, 5 vacancies were identified and the patents around them were analyzed (Fig.13). We found that there are two vacancies containing potential opportunities.
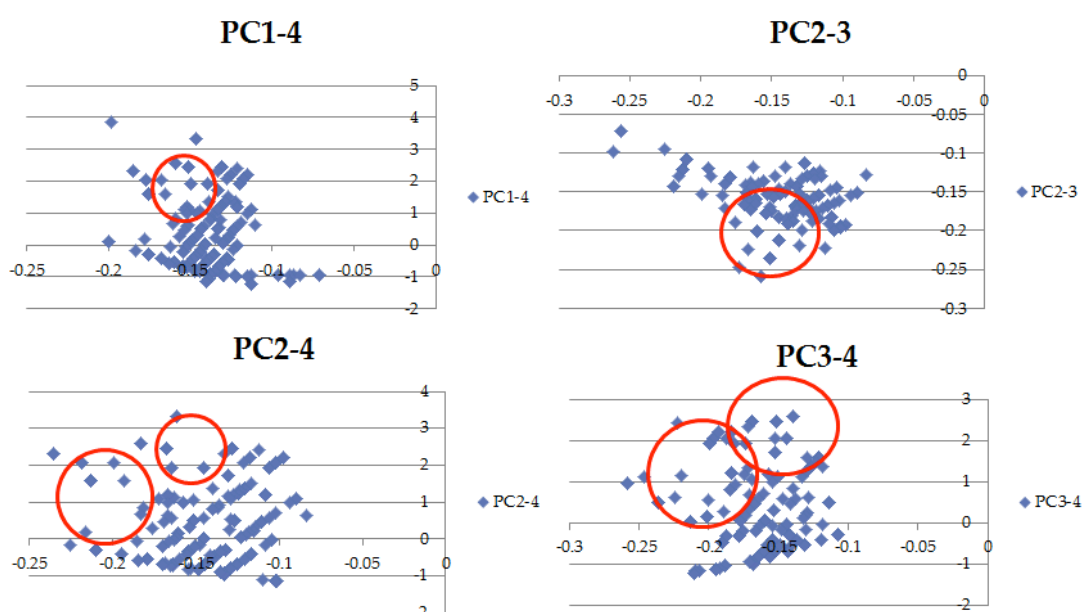
Figure 13. Five vacancies identified by experts

The first vacancy is in map PC1-4 with 12 patents around it (Fig.14). The trend of these 12 patents shows that there was a develop gap in 2010, but was overcame in 2011. In USPTO_databases, it usually takes about a year to examine the patents, so there will be a year delay (Fig.15). The related technology is still under development in recent year with the core concepts "Rapid detection of polynucleotide and protein" and "Elastic layer and fluid channel". The second vacancy is in map PC3-4 with 26 patents around it (Fig.16). The patent trend also shows that the related technology is still on development in recent years (Fig.17). The core concepts of these patents are "Temperature control system", "Membrane and Electrophoresis" and "Crystallization".

253

PC1-4

Patent List	
US8440093	US7462449
US8845914	US7501245
US7442556	US7351376
US7526741	US7622081
US7820427	US8129176
US8163492	US8257666
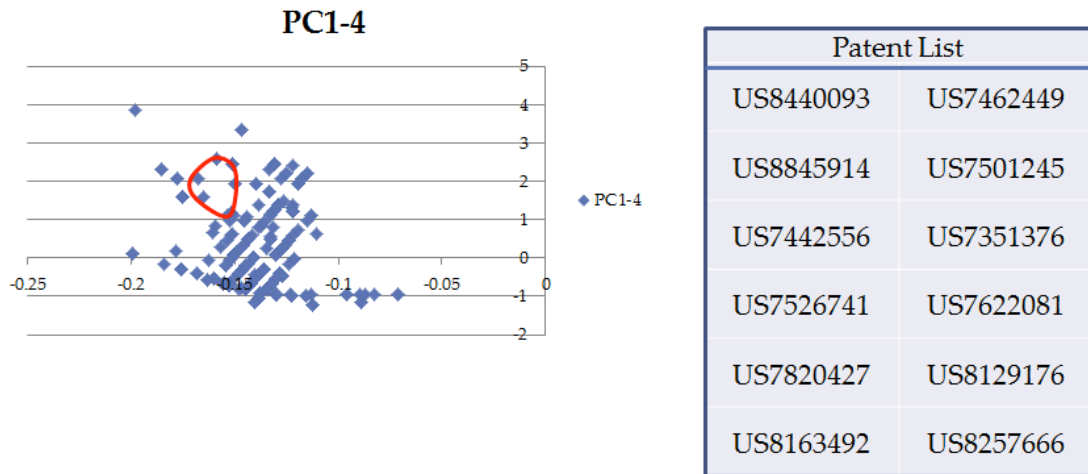
Figure 14. The first vacancy

Patent Number
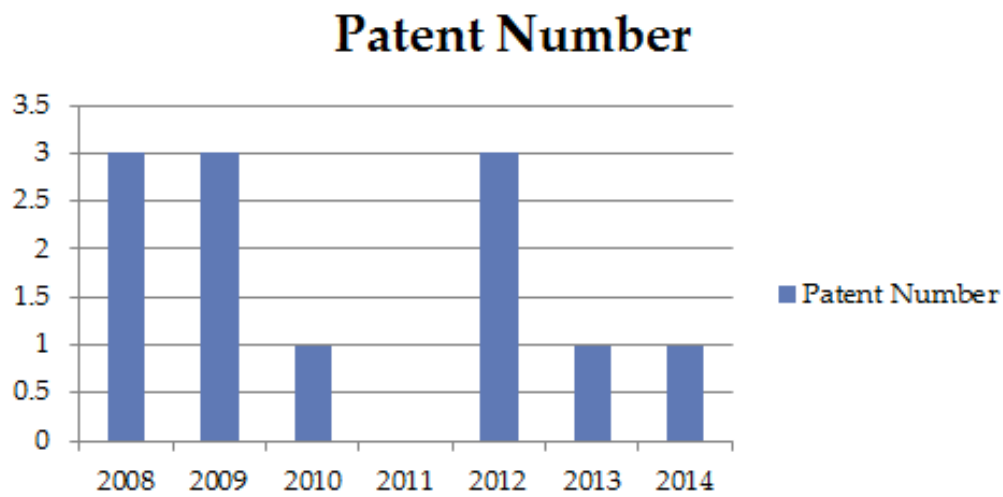
Figure 15. Patent trend of the first vacancy

PC3-4

Patent List	
US7833708	US8052792
US8486636	US7195670
US7459022	US7279146
US7927422	US7306672
US8691010	US7479186
US7820427	US7704322
US8163492	US8002933
US7143785	US8021480
US7291512	US8104515
US7052545	US8382896
US7670429	US8695640
US7217321	US8709152
US7244402	US7526741
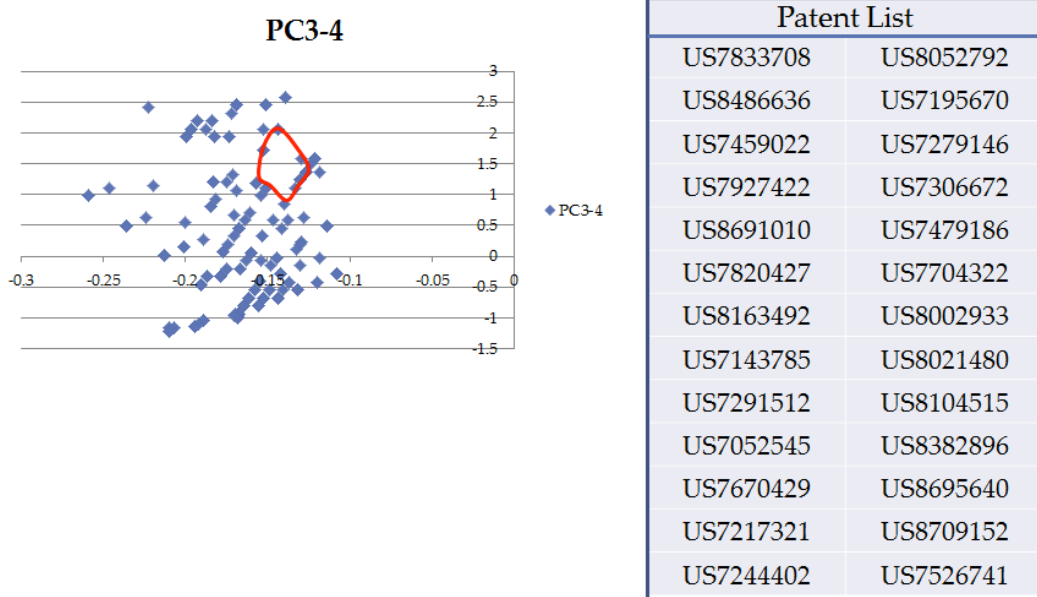
Figure 16. The second vacancy
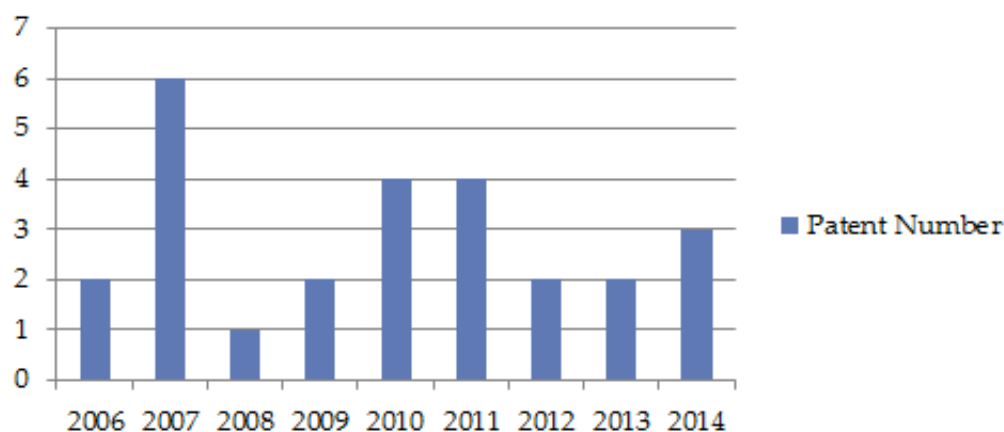
Figure 17. Patent trend of the second vacancy

4. Conclusion

According to the biochip literature (Transparency Market Research, 2014), the future trend of microfluidic technology will be used to customize disease diagnosis. In the future, traditional large detection machines will be replaced by customizing biochips. With the biochip, people can easily examine their health any time and any place. The key technology of customizing disease detection is "Rapid separation and detection of polynucleotide and protein" which is the same to our result.

This research shows a useful way to find technology opportunities through keyword based patent analysis. Companies can reduce development costs and time to discover potential technological opportunities. The opportunities may exist in patents around identified vacancies, so that firms can use them as a reference to find possible technological opportunities. It makes SMEs have more chance to develop their own technologies and products.

However, there are still some limitations in this research. First, this method is suggested to support incremental innovation rather than radical innovation. This is because that the opportunities are found through the relationship between current technologies. Second, the vacancy we have found may not be a real opportunity, managers have to do further evaluation before making investment decisions.

References

Lee, S., Yoon, B., & Park, Y. (2009). An approach to discovering new technology opportunities: Keyword-based patent map approach.*Technovation*, *29*(6), 481-497.

Prof. Juan G. Santiago, Stanford Microfluidic Laboratory, 2015, http://microfluidics.stanford.edu/

Tan, A. H. (1999, April). Text mining: The state of the art and the challenges. In *Proceedings of the PAKDD 1999 Workshop on Knowledge Disocovery from Advanced Databases* (Vol. 8, pp. 65-70).

Lee, Y., Kim, S. Y., Song, I., Park, Y., & Shin, J. (2014). Technology opportunity identification customized to the technological capability of SMEs through two-stage patent analysis. *Scientometrics*, *100*(1), 227-244.

Alliance of Microfluidic production techniques, 2014, http://mbl.pme.nthu.edu.tw/mftc/about.php

Microfluidic Device System Market – Global Industry Analysis, Size, Share, Growth, Trends and Forecast, 2013-2019, Transparency Market Research, 2014

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A Study on Behavior Intention to use Live Streaming Video Platform Based on TAM Model

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Abstract

Due to the high penetration of internet and well-developed technology in current Taiwan, it's enough to provide greater bandwidth and faster network. It makes users use the internet easier and save time. Some application platforms in use on computer or entertainment device is necessary of enough bandwidth and live streaming video platform is one of them. It mainly presents in a way to broadcast the scene of user's game screen or user performing video and allows viewers discuss with the user. In addition to use on the PC, it is now available on the PlayStation 4 and Xbox One. The number of users has rapidly increased in recent years. Previous studies tend to focus on video-sharing website such as YouTube or Youku. There is few researches for a live streaming video platform. Therefore, this study attempts to explore user behavior intention on live streaming video platform by questionnaire method. It is based on Technology Acceptance Model (TAM) which is proposed by Davis (1989) to establish a research framework model. The research expects to collect the sample from game and sport discussion platform which gather many users .The result will provide new understanding of user's intention to use live streaming video platform and make researchers for further research in this field in the future.

Key words: Live Streaming Video Platform, Technology Acceptance Model (TAM), Behavior Intention

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1. Introduction

According to Foreseeing Innovative New Digiservices (FIND) statistics in 2013, there are 17.98 million people had used the internet in Taiwan. In internet penetration, 84.81% of all households connect with the internet. Among all internet user, 61% of users' internet bandwidth is greater than 8 megabyte per second (FIND, 2013). As the development of technology, internet has greater bandwidth and higher penetration. It combined most of technology products and service in life.

(Units in Millions)
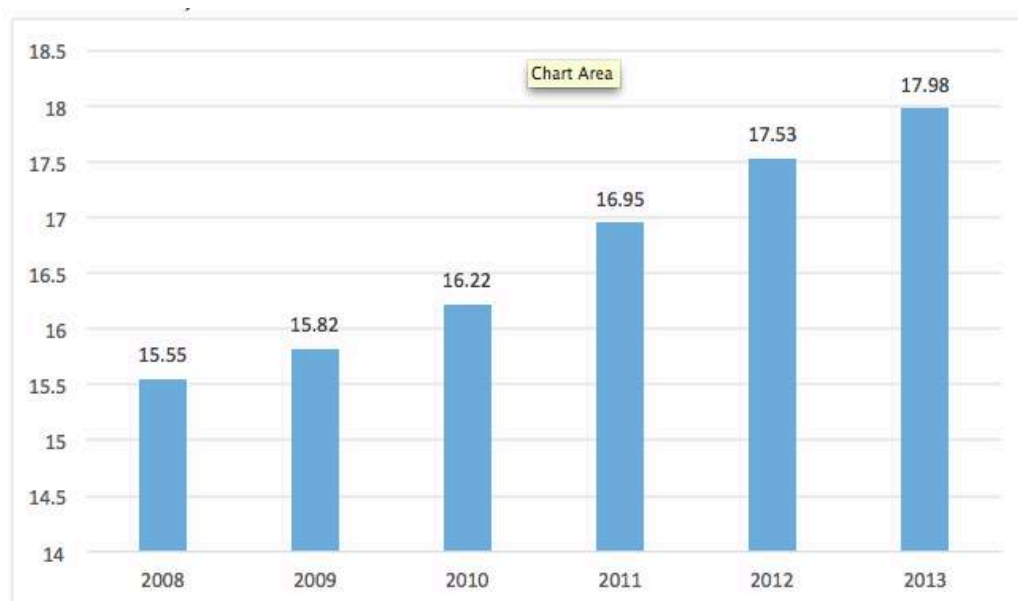
Figure1.1 Taiwan 0-100 age of internet user

Source: Foreseeing Innovative New Digiservices (FIND, 2014)

Live streaming video platform such as Twitch or Ustream is that user broadcast the scene of user's screen or user's performing video to viewer. The video content primarily are video game, sport game and talent show. Unlike YouTube which is the most famous video-sharing website, live streaming video platform provide the instant video broadcast and discussion platform for viewers chatting. Playing game is no longer an individual entertainment. Live streaming video platform offers users a performance place and offers viewers various types of channel for recreation. Through the internet, live streaming video platform broadcaster and viewers together. Owing to these incentives, the number of people use live streaming video platform rapidly increase. This study aims to analyze the Taiwanese users' behavior intention of using live streaming video platform, find out the degree to which factors are the key influential factor which affect users' intention to use live streaming video

platform and understand the factors that are influence on Taiwanese users' intention to use live streaming video platform and perceived usefulness and perceived ease of use.

2. Literature Review

2.1 Streaming Media

Nowadays, it is simple to acquire information on the internet. Streaming media is one of the manners to access information over the internet. There are two ways to use media on the internet that are downloading and streaming. The concept of streaming video is introduced in early 1990s. The earliest reference to what we might recognize as streaming media was a patent awarded to George O Squier in 1922 for the efficient transmission of information by signals over wires. By the late 90s, streaming video had started to become the norm. Unlike in previous years, where the video had to be downloaded in its entirety before viewing, streaming is characterized by playing the video data as it's received (Bucknall, 2012).

With streaming technology, user can watch video or listen music before the files completely download. Streaming technology refers to media file be compressed on the internet. When user request the file, the compressed file is sent from the server and decompressed by a streaming media player such as Adobe Flash Player. It makes user not necessary to waste time for downloading the files and also protect the copyright of the contents. The streaming server constantly connects with user that is why users can jump to any timeline of the media files. In view of the high popularity of streaming video platform such as YouTube, another streaming technology service: online streaming video shows up. Live streaming video platform is gradually familiar by people. People can broadcast scene of user's screen or user's performing video to viewer in this kind platform as long as they have computer and webcam.

2.2 Technology Acceptance Model and Other Related Research Models

Information technology (IT) is the application of computers and telecommunications equipment to send, receive, store and manipulate data (John, 2009). IT enables us to do the work faster, more efficiently, more flexibility and enables us to do things that we cannot do now, or to do them in a ways that are mainly different (Martinko et al., 1996). However, the difficulties are often encountered when new information technologies (IT) are introduced into the workplace. If the people are not willing to

apply and accept new IT, new IT doesn't bring the efficiency to work. The more people accept new IT, the more people are willing to make changes in their practices and take effort to start using new IT (Pikkarainen et al., 2004). For this reason, technology acceptance play an important role to the people make use of the new IT.

2.1.1 The theory of reasoned action (TRA)

The theory of reasoned action (TRA) which originated from social psychology is proposed by Fishbein and Ajzen in 1975. The theory of reasoned action (TRA) has proven successful in predicting and explaining behavior in different domains. The theory of reasoned action (TRA) assume that consumers' behave rationally and evaluate all of the available information. People consider the effects of the possible action and make the decision (Yousafzai, 2010; Pikkarainen et al., 2004; Fishbein & Ajzen, 1980).
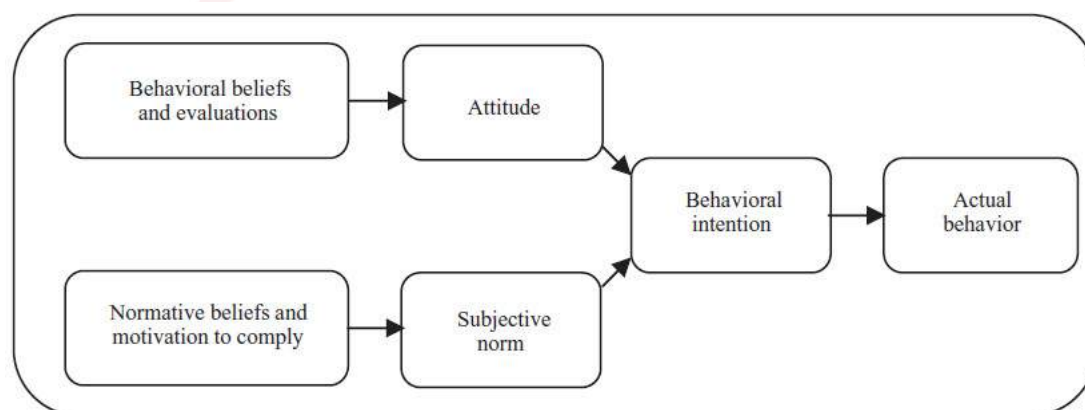
Figure2.1 Theory of resaoned action (Fishbein & Ajzen, 1975).

2.1.2 Theory of Planned Behavior

Ajzen (1985) proposed the theory of planned behavior (TPB) that was derived from the theory of reasoned action (TRA) including the perceived behavior control. TPB suggested that person's behavioral intention is influenced by attitude, subjective norms and perceived behavioral control. TRA assumed that person's behavior is under volitional control and can be predicted from intention. To solve the situtations in which people lack complete volitional control, the construct of perceived behavioral control was added (Ajzen, 2002). Perceive behavioral control refers to people's perception of the ease or difficulty of performing the behavior of interest and is a function of control beliefs and perceived facilitation. Control belief is the perception of the presence or absence of resources and and opportunities to carry out the behavior. Perceived facilitation is one's assessment of the importance of those

resources to the achievement of outcomes (Chang, 1998).
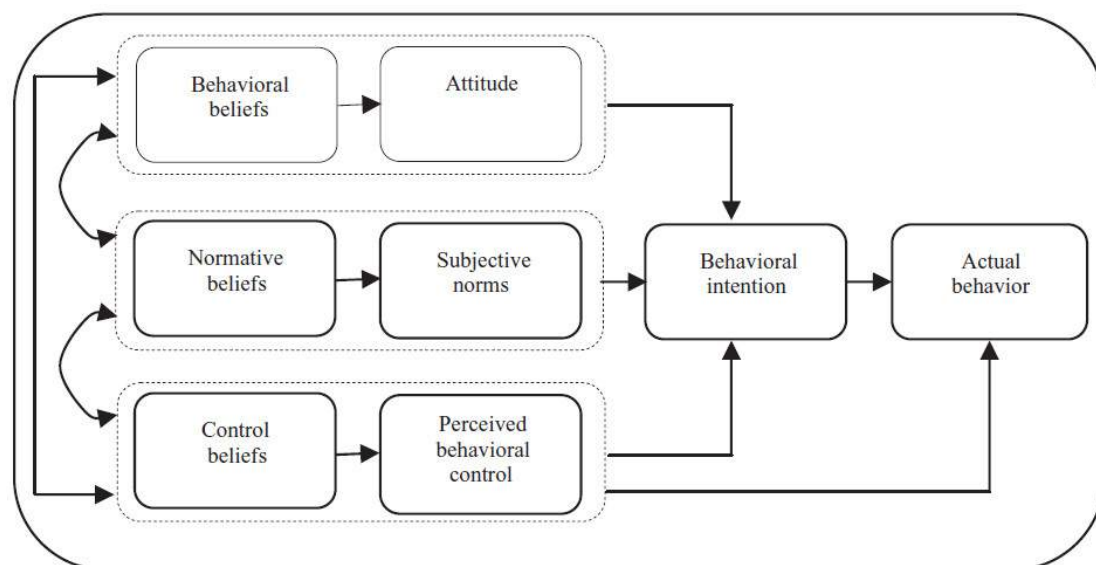
Figure 2.2 Theory of planned behavior (Ajzen, 1991).

2.1.3 Technology Acceptance Model

With the technological advances of the 1980s, personal computer was commonly used. Since few people have sufficient technology knowledge to operate personal computer, people was reluctant to use it. One of the most widely accepted model studying in technology acceptance is the technology acceptance model (TAM). Davis proposed technology acceptance model (TAM) in 1989 (Davis, 1989). Davis attempted to explore the behavior of user accept the information of personal computer (Chang, 2008). Users' attitudes towards and acceptance of a new information system have a greater impact on successful information technology (IT) adoption.

Davis advocated to discard the subject norms because of the uncertainity and difficiulity of psychology measurement. Davis (1989) developed the the technology acceptance model (TAM) derives from the theory of reasoned action (TRA) and predicts user acceptance based on two factor: perceived usefulness and perceived ease of use. Perceived usefulness and perceived ease of use are the primary drivers to determine a person's attitude toward using technology. Perceived usefulness is define as the "prospective user's subjective probability that using a aspecific application system will increase his or her job performance within context" and perceived ease of use is "the degree to which the user expects the target system to be free of efforts" (Davis et al., 1989). Futhermore, perceived ease of use affects perceived usefulness. It is reasonable that the user believe technology which is easy to manipulate is useful.

Figure 2.3 show the technology acceptance model.
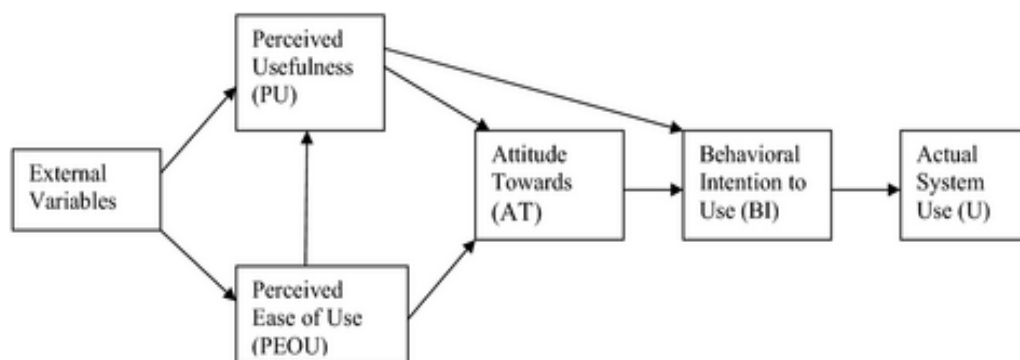
Figure 2.3 Technology acceptance model (Davis, 1989).

3. Research Framework and Hypotheses

The research framework is extended from the concept of the technology acceptance model (TAM). Davis (1989) suggested that with the change of the environment and time, other variables that may affect consumers' intention or even their perceived ease of use and perceived usefulness also could be taken into consideration. The main concept of this research is to find out factor which influence people using live streaming video platform. By reviewing previous research, we add three variables which are perceived playfulness, user interface design and perceived interaction into the original TAM. Figure 3.1 shows the developed research framework.
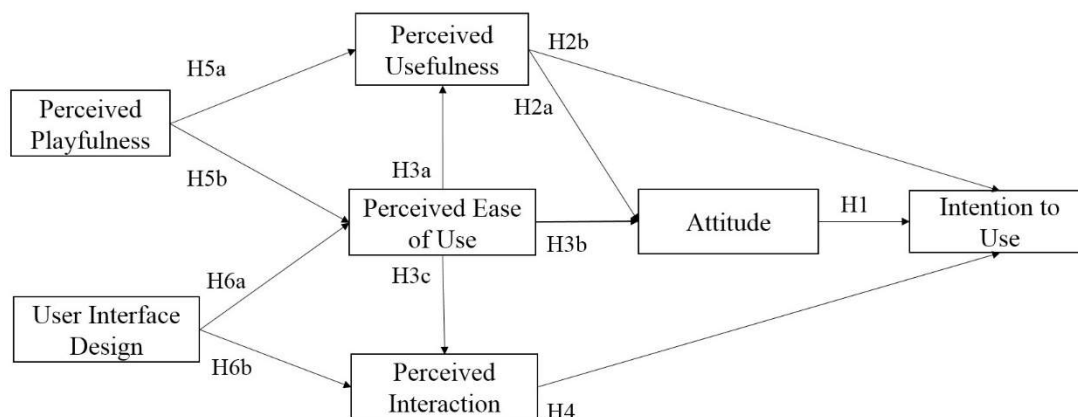
Figure 3.1 Research Framework

The operational definition of each variable:

1. **Perceived ease of use** is the degree to which a person using live streaming video platform would be free of effort.
2. **Perceived usefulness** is the degree to which a person believes that using live streaming video platform would enhance his or her performance.
3. **Perceived interaction** is the degree to which a person believes that using live streaming video platform would interact with other users.
4. **Perceived playfulness** is the degree in which the use of the live streaming video platform is perceived as fun or enjoyable by the users.
5. **User interface design** is the degree to which a person perceived the layout of live streaming video platform.
6. **Attitude** is users' positive or negative evaluation of using live streaming video platform.
7. **Intention** to use can be describe as the users' likelihood to use live streaming video platform.

We propose ten hypotheses which are listed below:

H1: Attitude toward using live streaming video platform would directly have an impact on users' intention to use live streaming video platform.

H2a: Perceived usefulness would directly have an impact on users' intention to use live streaming video platform.

H2b: Perceived usefulness would directly have an impact on attitude toward using live streaming video platform.

H3a: Perceived ease of use would directly have an impact on perceived usefulness of live streaming video platform.

H3b: Perceived ease of use would directly have an impact on attitude toward using live streaming video platform.

H3c: Perceived ease of use would directly have an impact on perceived interaction of using live streaming video platform.

H4: Perceived interaction would directly have an impact on intention to use live streaming video platform.

H5a: Perceived playfulness would directly have an impact on perceived usefulness of live streaming video platform.

H5b: Perceived playfulness would directly have an impact on perceived ease of use of live streaming video platform.

H6a: User interface design would directly have an impact on perceived ease of use of

live streaming video platform.

H6b: User interface design would directly have an impact on perceived usefulness of live streaming video platform.

In this research, the population is define as live streaming video platform users in Taiwan. In order to increase the convenience of sampling, save considerable time and money and to eliminate geographical limitation, survey conducted online is more desirable than offline survey (Granello & Wheaton, 2004). We set an online survey to collect the data through my3q survey website (www.my3q.com). The survey was conduct on March 1st, 2015 until March 27, 2015 and distribute to social network website Facebook and Bulletin Board System in Taiwan (bbs:/ptt.cc). As for sample size, there are 347 of total respondents, only 280 respondents were usable other 67 respondents were dropped because of no experience in using live streaming video platform or incompleteness in answering the questionnaire. Comrey (1973) suggested that factor analysis is inadvisable with a small sample size, under 200 respondents. According to Gorsuch (1983), the least sample size is equal to five times of the items and higher than 100. In this study, there are 40 questions total, hence the least sample size is 200.

4. Data Analysis

There are total of 280 usable questionnaire collected for study. Table 4.1 displays the sample structure. For gender, 62% are male respondents while 38% are female. The age structure of respondents are mainly aged 20 to 29 years old which are 76%, 13% under 20 years old, 10% 30 to 39 years old and 1% above 50 years old. In terms of occupation, most of respondents are students which is 56%, service is 12%, manufacturing is 7% and the other is 25%. Regarding the internet experience of respondents, respondents mainly have more than 5 years internet experience is 85%, 3 to 4 years is 4%, 1 to 2 years is 4% and the other is 7%. Concerning respondents of level of education, the highest of proportion is bachelor which is 69.2%, master is 21%, high school is 9% and the other is 0.8%.

Table 4.1 Sample Structure

Attribute	Distribution	Frequency	Percentage
Gender	Male	179	62%
	Female	110	38%
Age	20 to 29	212	76%
	Under 20	37	13%

	30 to 39	28	10%
	Above 50	3	1%
Occupation	Student	159	56%
	Service	33	12%
	Manufacturing	19	7%
	Technology	18	6%
	Military, Government, Education	15	5%
	Retired	10	4%
	Freelance	9	4%
	Business	4	1%
	Others	13	5%
Internet Experience	Above 5 years	238	85%
	3 to 4 years	12	4%
	1 to 2 years	11	4%
	2 to 3 years	8	3%
	Less than 1 year	6	3%
	4 to 5 years	6	2%
Level of Education	Bachelor	193	69.2%
	Masters	59	21%
	High School	26	9%
	Doctor	1	0.4%
	Junior high school or less	1	0.4%

Table 4.2 shows the live streaming video platform adoption circumstance of the 280 respondents. Most of the respondents usually through YouTube Live (68%) to watch live streaming video, Twitch is 21%, Ustream is 7.5% and the other live streaming video platform is 3.5%. There are only 16% of respondents have the experience of create channel for broadcasting the videos vai live streaming video platform, 84% of respondents are not. More than half of respondents chats or discuss with other users via chat room on live streaming video platform (58%), 42% of respondents are not. Regarding the category of video which respondents usually watch on live streaming video platform, gaming is 31%, music is 23%, entertainment is 16%, sport is 14%, the other categories is 17%. For the daily usage time of live streaming video platform, there are 43% of respondents' usage time is less than 30 minutes, 24% of respondents' usage time is half of hour to 1 hour, 21% of respondents' usage time is 1 hour to 2 hours and the other is 12%.

Table 4.2 Live Streaming Video Platform Adoption Circumstance of Respondents

Attribute	Distribution	Frequency	Percentage
Platform	YouTube Live	189	68%
	Twitch	59	21%
	Ustream	21	7.5%
	LIVEhouse.in	4	1.4%
	Piko Live	4	0.7%
	Other	2	1.4%
Create Channel	No	236	84%
	Yes	44	16%
Using Chat Room	Yes	162	58%
	No	118	42%
Video Category	Gaming	88	31%
	Music	64	23%
	Entertainment	45	16%
	Sports	39	14%
	News	31	11%
	Technology	5	1.7%
	Education	3	1.4%
	Animal &Wildelife	1	0.8%
	Other	2	1.1%
Usage Time	Less than 30mins	119	43%
	0.5 to 1 hour	68	24%
	1 to 2 hour(s)	60	21%
	More than 3 hours	19	7%
	2 to 3 hours	14	5%

Reliability and validity are used to evaluate the quality of data. Cronbach's alpha is widely used statistic tool to evaluate the reliability of measurement. Table 4.4 displays Cronbach's alpha of each construct. The seven variable in this study have the following value for Cronbach's alpha: perceived ease of use = 0.913, perceived usefulness = 0.786, perceived interaction = 0.877, perceived playfulness = 0.727, user interface design = 0.764, attitude = 0.832 and intention = 0.801. Nunnally (1978) stated that Cronbach's alpha is lower than 0.35 is low reliability, Cronbach's alpha is lower than 0.7 and higher than 0.35 is medium reliability and Cronbach's alpha is higher than 0.7 is high reliability. As table 4.4 shows that all constructs' Cronbach's alpha are higher than 0.7. In general, the reliability of this study is high.

Convergent validity shows whether the observed variables are correlates with their assigned latent variables (Garson, 2009). Bagozzi and Yi (1988) suggested that standardized factor loadings of each item should exceed 0.5 and composite reliability of each latent variable should be over 0.6. As Table 4.4 displays, except PP1 and PP2 , all items of standardized factor loading are greater than 0.5 and all items of composite reliability are greater than 0.6. Consequently, convergent validity of the constructs in this study is satisfied.

Table 4.4 Factor loading, Composite Reliability and Cronbach's Alpha

Construct	Item	Standardized Factor Loading	Composite Reliability	Cronbach's α
Perceived Ease of Use	PE1	0.806		
	PE2	0.856	0.9136	0.913
	PE3	0.866		
	PE4	0.878		
Perceived usefulness	PU1	0.831		
	PU2	0.500	0.7966	0.786
	PU3	0.614		
	PU4	0.839		
Perceived Interaction	PI1	0.809		
	PI2	0.851	0.8773	0.877
	PI3	0.787		
	PI4	0.754		
Perceived Playfulness	PP1	0.439		
	PP2	0.318	0.7272	0.727
	PP3	0.839		
	PP4	0.680		
User Interface Design	UID1	0.714		
	UID2	0.649	0.7708	0.764
	UID3	0.605		
	UID4	0.732		
Attitude	A1	0.736		
	A2	0.809	0.8445	0.832
	A3	0.831		
	A4	0.652		
Intention	I1	0.844		
	I2	0.847	0.8186	0.801
	I3	0.621		

Conclusion

The objectives of this study is to find the factors which affect the intention to use live streaming video platform and which factor is the strongest influence the intention to use live streaming video platform. In this study, we apply the technology acceptance model (TAM) which include perceived usefulness, perceived ease of use, attitude and intention. According to previous studies, we add these three factors which are perceived playfulness, perceived interaction and user interface design into the research model.
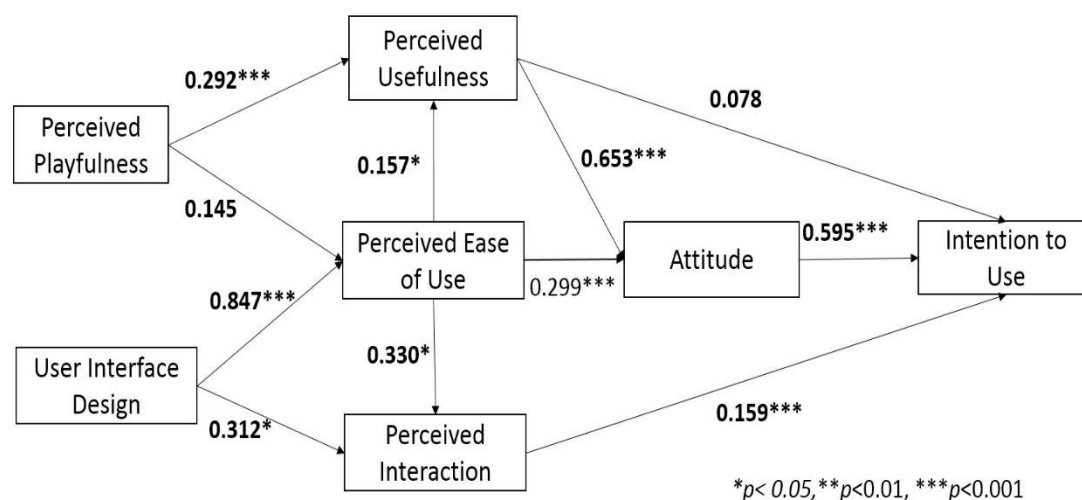
Figure 5.1 Structural Model Testing Result

Base on the result, attitude and perceived interaction will influence the intention to use live streaming video platform. The most influential factor affecting the intention to use live streaming video platform is attitude (Beta = 0.595) which is larger than perceived interaction (Beta = 0.159). Perceived usefulness will be directly influence by perceived playfulness which beta value is 0.292 and perceived ease of use which beta value is 0.157. Perceived ease of use will be directly influence by user interface design which beta value is 0.847. Overall, the research objectives in this research is satisfied.

Table 4.7 Hypotheses Testing Result

Path		Estimate (β)	S.E	C.R	p	Result
Perceived Ease of Use	← Perceived Playfulness	0.145	0.076	1.891	0.059	Supported

			β	S.E.	C.R.	P	
Perceived Ease of Use	←	User Interface Design	0.847	0.105	9.071	***	Supported
Perceived Usefulness	←	Perceived Playfulness	0.292	0.062	4.718	***	Supported
Perceived Usefulness	←	Perceived Ease of Use	0.157	0.049	3.227	0.001	Supported
Perceived Interaction	←	User Interface Design	0.312	0.145	2.156	0.031	Supported
Perceived Interaction	←	Perceived Ease of Use	0.330	0/.107	3.077	0.002	Supported
Attitude	←	Perceived Usefulness	0.653	0.096	6.822	***	Supported
Attitude	←	Perceived Ease of Use	0.299	0.051	5.835	***	Supported
Intention to Use	←	Perceived Usefulness	0.078	0.099	0.790	0.429	Not supported
Intention to Use	←	Perceived Interaction	0.159	0.047	3.409	***	Supported
Intention to Use	←	Attitude	0.595	0.095	6.272	***	Supported

Note: β = standardised beta coefficients; S.E. = standard error; C.R. = critical ratio; *p< 0.05

5.2 Contribution of the Research

With the result from the research, we understand the Taiwanese users' perception and habits on using live streaming video platform. The contribution of this research is that the findings from the result provide live streaming video platform this kind of companies as reference. If these kind of companies are planning strategies, promotion or commercial, they can take the result for reference. Like the target customer is 20 to 29 years old (76% of respondents), the 58% of respondents use the chat room on live streaming video platform and the chat room design influence the intention on using live streaming video platform. The result also offer them with understanding of

Taiwanese users' acceptance behavior and intention to use live streaming video platform. Furthermore, we expected the result and the research framework could have contribution to other researchers who will do the similar research topic or framework in the future.

5.3 Limitation and Future Study

There are two limitations concerning research design. First, the research respondents of this study is limited to Taiwanese users, the result of users' perceptions do not include the foreign users' perceptions. We suggest the future studies can test in other countries. Second, the research model is extended from the technology acceptance model (TAM) via adding other variables which are perceived playfulness, perceived interaction and user interface design. There are some other potential or demographical variable influence users' perception and intention to use live streaming video platform. We recommend other researchers to add into the research framework in the future. Third, the literature related to live streaming video platform are scarce. We only could take the similar topic such as blog, online learning community and streaming video platform for reference. Lastly, the live streaming video has various type of platform, such as Twitch specialized in gaming. Hence, we expect that the researchers will research in specific platform in the future study to make this research area more completely.

References

Ajzen I, Fishbein M. Understanding attitudes and predicting social behavior. 1st ed. Englewood Cliffs, NJ: Prentice-Hall; 1980.

Ajzen I. From intentions to actions: a theory of planned behavior. In: Kuhl J, Beckmann J, editors. Action control. Berlin Heidelberg: Springer; 1985.

Ajzen, Icek, and Martin Fishbein. "Understanding attitudes and predicting social behaviour." (1980).

Ajzen, Icek. "The theory of planned behavior." *Organizational behavior and human decision processes* 50.2 (1991): 179-211.

Ajzen, I. (2002). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior1. *Journal of Applied Social Psychology*, *32*, 665–683. doi:10.1111/j.1559-1816.2002.tb00236.x

Ajzen, Icek. "Constructing a TPB questionnaire: Conceptual and methodological considerations." (2002): 2013.

Armitage, C. J., & Conner, M. (1999). The theory of planned behaviour : Assessment of predictive validity and `perceived control'. *British Journal of Social Psychology*, 35–54. doi:10.1348/014466699164022

Armitage, C. J., & Conner, M. (2001). E Y cacy of the Theory of Planned Behaviour : A meta-analytic review, 471–499.

Bagozzi, Richard P., and Youjae Yi. "On the evaluation of structural equation models." *Journal of the academy of marketing science* 16.1 (1988): 74-94.

Bamberg, S., Ajzen, I., & Schmidt, P. (2003). Choice of Travel Mode in the Theory of Planned Behavior: The Roles of Past Behavior, Habit, and Reasoned Action. *Basic and Applied Social Psychology*, *25*(3), 175–187. doi:10.1207/S15324834BASP2503_01

Bang, H., Ellinger, A. E., Hadjimarcou, J., & Traichal, P. a. (2000). Consumer concern, knowledge, belief, and attitude toward renewable energy: an application of the reasoned action theory. *Psychology & Marketing*, *17*, 449–468. doi:10.1002/(SICI)1520-6793(200006)17:6<449::AID-MAR2>3.0.CO;2-8

Broman Toft, M., Schuitema, G., & Thøgersen, J. (2014). Responsible technology acceptance: Model development and application to consumer acceptance of Smart Grid technology. *Applied Energy*, *134*, 392–400. doi:10.1016/j.apenergy.2014.08.048

Chang, M. K. (1998). Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior. *Journal of Business Ethics*, *17*, 1825–1834. doi:10.1023/A:1005721401993

Chang, M. K. (2013). Predicting unethical behavior: A comparison of the theory of reasoned action and the theory of planned behavior. *Citation Classics from the Journal of Business Ethics: Celebrating the First Thirty Years of Publication*, 433–445. doi:10.1007/978-94-007-4126-3

Conklin, G. J., Greenbaum, G. S., Lillevold, K. O., Lippman, A. F., & Reznik, Y. a. (2001). Video coding for streaming media delivery on the internet. *IEEE Transactions on Circuits and Systems for Video Technology*, *11*(3), 269–281. doi:10.1109/76.911155

Conner, M., & Armitage, C. J. (1998). Extending the Theory of Planned Behavior: A Review and Avenues for Further Research. *Journal of Applied Social Psychology*, *28*, 1429–1464. doi:10.1111/j.1559-1816.1998.tb01685.x

Comrey, A. L. (1973). A first course in factor analysis. Academic Press: New York, NY.

Cooke, R., & French, D. P. (2008). How well do the theory of reasoned action and theory of planned behaviour predict intentions and attendance at screening programmes? A meta-analysis. *Psychology & Health*, *23*(January 2015), 745–765. doi:10.1080/08870440701544437

Davis FD, "A Technology Acceptance Model for Empirically Testing New End-User Information Systems:Theory and Results," Doctoral dissertation, Sloan School of Management, Massachusetts Institute of Technology, 1986.

Davis FD, Bagozzi RP, Warshaw PR. User acceptance of computer technology

Davis FD. Perceived usefulness, perceived ease of use, and user acceptance.MIS Quart 1989;

Grady. (2010). The History of Streaming Video, (August), 1–3. Retrieved from http://www.mediacollege.com/video/internet/history/

Granello, Darcy Haag, and Joe E. Wheaton. "Online data collection: Strategies for research." *Journal of Counseling & Development* 82.4 (2004): 387-393.

Gorsuch, R. L. (1983). Factor analysis. Hillsdale, NJ: Lawrence Erlbaum
Ha, S., & Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research*, *62*(5), 565–571. doi:10.1016/j.jbusres.2008.06.016

Hansen, T., Jensen, J. M., & Solgaard, H. S. (2004). Predicting online grocery buying intention: A comparison of the theory of reasoned action and the theory of planned behavior. *International Journal of Information Management*, *24*, 539–550. doi:10.1016/j.ijinfomgt.2004.08.004

Hoffman, D. L., Hoffman, D. L., Novak, T. P., & Novak, T. P. (1996). Marketing in Hypermedia Computer-iVlediated Environments^ Conceptual Foundations. *Journal of Marketing*, (1).

Holden, R. J., & Karsh, B.-T. (2010). The technology acceptance model: its past and its future in health care. *Journal of Biomedical Informatics*, *43*(1), 159–172. doi:10.1016/j.jbi.2009.07.002

Kaewwit, R. (2010). The Adoption of TAM for Investigating Intention Usage in a Simulation for Teaching Assistance of Computer Graphics, *3*(14), 241–249.

Kingdom, U. (2009). Distinguishing perceptions of control from self-efficacy: Predicting consumption of a low-fat diet using the theory of planned behavior (Journal of Applied Social Psychology (1999) 29:1 (78)). *Journal of Applied Social Psychology*, *39*, 2021. doi:10.1111/j.1559-1816.2009.00525.x

Koufaris, M. (2002). Applying the Technology Acceptance Model and Flow Theory to Online Consumer Behavior. *Journal of Information Systems Research*, *13*(2), 205–223. doi:10.1287/isre.13.2.205.83

Lee, J., & Kim, Y. (2009). Perceived Interaction in Online Classes and Technology Acceptance Model to Student Satisfaction, *7*, 25–48.

Liu, I. F., Chen, M. C., Sun, Y. S., Wible, D., & Kuo, C. H. (2010). Extending the TAM model to explore the factors that affect Intention to Use an Online Learning Community. *Computers and Education*, *54*(2), 600–610. doi:10.1016/j.compedu.2009.09.009

Martinko, Mark J., Robert W. Zmud, and John W. Henry. "An attributional explanation of individual resistance to the introduction of information technologies in the workplace." *Behaviour & Information Technology* 15.5 (1996): 313-330.

Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a World-Wide-Web context. *Information and Management*, *38*(June 2000), 217–230. doi:10.1016/S0378-7206(00)00061-6

Muk, A., & Chung, C. (2014). Applying the technology acceptance model in a two-country study of SMS advertising. *Journal of Business Research*, *68*(1), 1–6. doi:10.1016/j.jbusres.2014.06.001

Ni. (2008). Introduction to Streaming.

Nunnally, J.C., (1978), Psychometric Theory, New York: McGraw-Hill.

Padilla-Meléndez, A., Del Aguila-Obra, A. R., & Garrido-Moreno, A. (2013). Perceived playfulness, gender differences and technology acceptance model in a blended learning scenario. *Computers and Education*, *63*, 306–317. doi:10.1016/j.compedu.2012.12.014

Pavlou, P., & Fygenson, M. (2006). Understanding and predicting electronic commerce adoption: an extension of the theory of planned behavior. *MIS Quarterly*, *30*(1), 115–143. Retrieved from http://www.jstor.org/stable/25148720

Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: broadening and deepening the theory of planned behaviour. *The British Journal of Social Psychology / the British Psychological Society*, *40*, 79–98. doi:10.1348/014466601164704

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research*, *14*, 224–235. doi:10.1108/10662240410542652

Porter, C. E., & Donthu, N. (2006). Using the technology acceptance model to explain how attitudes determine Internet usage: The role of perceived access barriers and demographics. *Journal of Business Research*, *59*, 999–1007. doi:10.1016/j.jbusres.2006.06.003

Porter, M. (2001). Copyright ©2001. All Rights Reserved. *Issn: 00178012*, *Volume: 65*, Pages: 43–59.

Roca, J. C., Chiu, C. M., & Martínez, F. J. (2006). Understanding e-learning continuance intention: An extension of the Technology Acceptance Model. *International Journal of Human Computer Studies*, *64*, 683–696. doi:10.1016/j.ijhcs.2006.01.003

Rogers, M., Archibald, M. E., Morrison, D. M., Wells, E. a, Hoppe, M. J., Nahom, D., & Murowchick, E. (2010a). Teen Sexual Behavior : of the Theory of Applicability Reasoned Action. *Family Relations*, *64*(November), 885–897.

Rogers, M., Archibald, M. E., Morrison, D. M., Wells, E. a, Hoppe, M. J., Nahom, D., & Murowchick, E. (2010b). Teen Sexual Behavior : of the Theory of Applicability Reasoned Action. *Family Relations*, *64*(4), 885–897.

Sheeran, P., & Orbell, S. (1999). Implementation intentions and repeated behaviour: Augmenting the predictive validity of the theory of planned behvaiour.

European Journal of Social Psychology, *29*(April 1998), 349–370. doi:http://dx.doi.org/10.1002/%28SICI%291099-0992%28199903/05%2929:2/3%3C 349: :AID-EJSP931%3E3.3.CO;2-P

Sheeran Paschal & Steven Taylor. (1999). Predicting Intentions to Use Condoms : A Meta-Analysis and Comparison of the Theories of Reasoned Action and Planned Behavior '. *Journal of Applied Social Psychology*, *29*, 1624–1675. doi:10.1111/j.1559-1816.1999.tb02045.x

Vallerand, R. J., Deshaies, P., Cuerrier, J.-P., Pelletier, L. G., & Et Al. (1992). Ajzen and Fishbein's theory of reasoned action as applied to moral behavior: A confirmatory analysis. *Journal of Personality and Social Psychology*. doi:10.1037/0022-3514.62.1.98

Venkatesh, V. (2000). Determinants of Perceived Ease of Use. *Information Systems Research*.

Venkatesh, V., & Davis, F. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, *46*, 186–204. doi:WOS:000086130700002

Vijayasarathy, L. R. (2004). Predicting consumer intentions to use on-line shopping: The case for an augmented technology acceptance model. *Information and Management*, *41*, 747–762. doi:10.1016/j.im.2003.08.011

Yousafzai, S., Foxall, G. R., & Pallister, J. G. (2010). Explaining internet banking behavior: theory of reasoned action, theory of planned behavior, or technology acceptance model?, 1172–1202. doi:10.1111/j.1559-1816.2010.00615.x

Improving Customers Satisfaction to the Development of User Interface Design for Mobile Shopping Through QFD

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Abstract

Retailers are trying hard to develop good relationships with their customers through mobile devices (e.g., smart phone, Tablet computer, etc.). Utilizing mobile devices is a low-cost and real-time way to provide high-quality service/product for customers, which is a direct medium between retailers and end customers. However, unfriendly user interface (UI), such as small-size screen, low-resolution display, and tiny keypads, etc. hinders the development of mobile shopping. This leads to most customers are still not quite comfortable with mobile shopping (m-shopping). Most prior literatures and researches focus on how to improve customer satisfaction through UI on "website", but only few on "mobile". This paper addresses this issue by using Quality Function Deployment (QFD) to understand customers' expectations and improve their satisfaction. QFD is an effective tool to develop customers' needs and discover visual design quality elements from customers' perspectives. It also combines "the voice of the customer (VOC)" into the process of the mobile UI design. VOC and all design elements were collected from questionnaires and experts interviews. The result of this study may find out what design quality elements of UI on mobile can improve customer satisfaction when they use m-shopping. Moreover, those elements will help designers know which important elements they should be noted first. This empirically efficient instrument will be useful for designers to develop the UI on mobile and for retailers to build better relationship with customers.

Keywords: Customers Satisfaction, Mobile commerce, Mobile device, Mobile-friendly, User Interface, Quality Function Deployment, Mobile Shopping, Design

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1. Introduction

1.1 Growth in mobile commerce

Today, the era of online shopping, with the progress of the device and the impact of the global business environment, retailer from electric commerce (e-commerce) to now beginning to focus on mobile commerce (m-commerce). M-commerce, namely, e-commerce activities carried out via a mobile device, such as a smartphone or PDA [1, 2]. The mobile device will become 'the access point' for all sorts of 'anytime, anywhere' services [5, 6, 7, 8]. In the several of the m-commerce, this study focused on the mobile shopping (m-shopping) which allows consumers to directly and immediately buy goods or services from a seller over the wireless technology using a mobile device.

The rapid growth of m-commerce phenomenon is also extend to Asia, both sources of innovation and economic performance are significant. For example, Taiwan's government announced enforcement NFC payments in January 2015. Telecommunications, transportation and finance will cooperate, through mobile device, user can integrate their travel card, credit card etc. This service will bring more business opportunities and potential in mobile commerce. Also, reported by the Taiwan's National Communications Commission (NCC) in 2014, development of the fourth generation (4G) of mobile telecommunications technology that people can get the faster mobile services. According to statistics, from May to October which during the few months, 4G has nearly 1.7 million subscribers, 4G innovation beyond what is expected. Therefore, we can know that the expansion of mobile population has great financial potential.

1.2 Mobile commerce is important to retailer

Be informed of potential in mobile commerce, led many organizations to investing substantial resources in this technology. Delivering value-added, interactive, and location-based mobile services to customers seems to be increasingly important to gaining a competitive edge by strengthening relationships with key customers [4]. There are some mean strengths to use m-commerce from Forrester, an independent technology and market research company, such as (1) Fundability, ease of finding a mobile site. (2) Utility, useful the site for shoppers. (3)Searchability, well search and search functionality. (4) Browsability, easy to browse the retailers' mobile site. (5)Buyability, easy and frictionless the buying process in on the mobile site [35].

According to the data of the EZprice, compared to Q1 and Q3 data in 2014, the total number of online stores are all growing, which Rakuten auction growth rate was the highest (16.19%), secondly is Yahoo Super Mall (15.89%), and the third for PChome Street (6.30%). Moreover, almost 1,000 stores already march into momo mall which began operating in July this year [34]. Additional of the data from internet retailer, m-commerce sales by mobile device in the US increased by 101% in the first quarter of 2014. Also the average order value on purchases through mobile device increased 12% and conversion rates increased by 29%.

For instance, the Chinese e-commerce holiday "Singles' Day" held on November 11 in China. The holiday has been capitalized by Alibaba to the tune of $5.75 billion in sales last year, according to Business Insider. Nearly eight in ten smartphone users in China surveyed by Admaster said they would be making purchases during the Double 11 online shopping festival. The number was 34 percent more than the sales in 2013. Forecasted by the Goldman Sachs, the multinational investment banking firm in American, the global m-commerce revenue reached $133 billion in 2013, and they estimate the sales will reach $626 billion in 2018. As see in Table 1, sales via mobile device will grow from $10 billion in 2012 to $31 billion in 2016, Forrester Research predicts.

Obviously, the m-commerce has a big business potential and provides an opportunity to engage with m-consumers more often and influence their behavior to purchase. It goes without saying that m-commerce played an important role in the electric business environment.

Table 1. U.S. M-Commerce Forecast, source by The Forrester Research
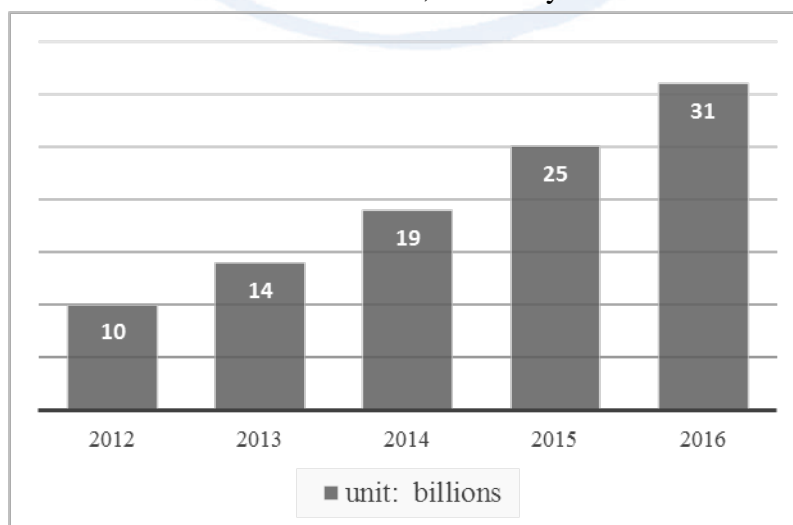
1.3 Important of Mobile-friendly

Even if there are lots of benefit of m-commerce, still have few things that companies should be consider. Mobile-friendly, the biggest reason to have a mobile-friendly is that a mobile-unfriendly may has chance of driving potential customers away. If want to reach customers on mobile site, retailers have to consider about how to design mobile site friendly. Reported from Google in July 2012, when customer visited a mobile-friendly site, 74% of people say they are more likely to return to that site in the future. And 67% of mobile users say that when they visit a mobile-friendly site, they're more likely to buy a site's product or service.

So that, how to make customer feel good when they skim through mobile site it's become a critical problem. Having a good mobile site is not only help companies making a few more sales, but also can building the relationship with your customer and strong brand. As we know having the mobile-friendly is important, in fast still have lots of mobile-friendliness site. Forrester surveyed 135 decision-makers to find out they have 268 websites with only 38% of their webpages mobile-friendly in 2015.

1.4 Challenges and barriers for m-commerce

Meanwhile, the m-commerce environment faces three major challenges. First, the bandwidth of the mobile internet is narrower than that of fixed lines, and the new networks occasionally disconnect without any warning. Second, compared to the desktop PCs, mobile phones have limited input buttons, displays, computing abilities, battery power, and memory. In particular, mobile phones usually are set up to move automatically into a power-off or power-save status because of the limits of their batteries, which shorten the time allowed to look for data. With smaller screens for online transactions, m-shopping require more processing pages and steps than PCs do. Finally, the environments in which m-shopping are often used are not stable enough. Unlike transactions on desktops or laptops at home or in the workplace, a mobile-phone transaction might occur in circumstances that have severe time constraints, such as while waiting for someone or while waiting for a traffic jam to clear [14]. For example, reported from e-Marketer states that only few smartphone users will buy these goods or service on their mobile devices, while 73.0% will do so via PC and 29.0% via tablet. From this we know that still few consumers accustomed to use mobile devices for online shopping.

1.5 Motivation and Study purpose

M-commerce is blossoming rapidly but it is still in its earliest state. Among the various success factors in the electric business, mobile friendly is a critical issue these

days. This paper focused on which design factor will make customer more satisfied with using mobile shopping. And, there is still less research to study what mobile-friendly design factors can improve customer satisfaction and provide a better experience to the customer. But what is needed is a much better understanding of the key factors that affect the adoption of m-commerce among customers.

In this paper, first we identify mobile friendly design elements through the `voice of the customer (VOC)' and literature reference. Then we sort the key design elements and integrating that into the development process. In the end, applying 'Quality Function Deployment (QFD)' to mobile friendly design development. Thus, our purpose was to develop the customer satisfaction for using mobile shopping. Based on our findings, can use as the reference for mobile designers or customers. Expectantly, those important factors can be improved the mobile interface quality and increased the customer satisfaction.

In this research method, "VOC" is a process to obtain the requirements from the customer which a group of users interesting in online shopping through mobile device. And initial design elements we collect through literature survey and expert interview. After obtained those items, we start analysis relationship between customers' needs and design elements. The result from those steps, we can get what is the most relative importance of the design elements. Finally, companies cloud know which elements can make their site mobile-friendly.

2. Literature Review

2.1 The popularization of Mobile Commerce

Mobile Commerce (M-commerce) refers to "any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and/or completed by using mobiles access to computer-mediated networks with the help of mobile devices"[3]. And usually, m-commerce is a support mechanism that provides mobile information and promotion [16].M-commerce impact on businesses have been profound. Examples include banking, investing, auctions, shopping, and mobile phone service [15]. In recent reported from StatCounter, the independent website analytics company, in September 2014, showed that the use of mobile devices to access the internet has increased by 67% worldwide over the last 12 months. This trend is significant growth in Taiwan, according to data of Institute for Information Industry (III) FIND in 2014, people aged 12 (or more) that the current smart phone user has been as high as 58.7% of the population; in the past six months, the Taiwanese

smartphone penetration grew by 51.4% to 58.7%. As shown in table 2, accordance with current trends, the popularity of smart phones in Taiwan situation will gradually mature stage, is expected to enter the market saturation period in 2016.

Also, Google released the global consumer insight in October 2014 report that Taiwan ranked first in the world purchasing power of action. More than 50% of consumers use mobile shopping (m-shopping), ahead of the United States, Japan and other countries. More consumers now attach to m-shopping and their expectations are getting higher. It promote to improve the level of the relation between retailers and customers by exchanging the information among them. As a result, m-shopping is a key enabler of retailers deliver their services to customers.

Table 2. 2010-2016f Taiwan smartphone penetration trend

Year	**Penetration (%)**	**Collocation population (K)**
2011H1	12.9	1,382
2011H2	18.2	1,850
2012H1	26.2	2,126
2012H2	35.4	3,275
2013H1	43.1	3,934
2013H2	51.4	4,898
2014H1	58.7	5,301
2014H2	65.4	6,043
2015f	71.4	14,799
2016f	76.3	15,798

Source: Institute for Information Industry FIND 2014

2.2 Mobile-friendly site

As stated by Write Techie, "*a mobile friendly site is a website in which the content is rendered in a manner that is easily readable for mobile devices, such as smart phones and tablet devices. That said, it must include similar features found on a standard website, such as navigation, search options, and share functions.*"[36]

Mobile-friendly now is become the potential leads, because research has found that

67% of people are more likely to make a purchase from a website that is mobile friendly [37]. For example, the good mobile site design can across multiple screen such as Figure 1.

Figure 1. Mobile-friendly Website
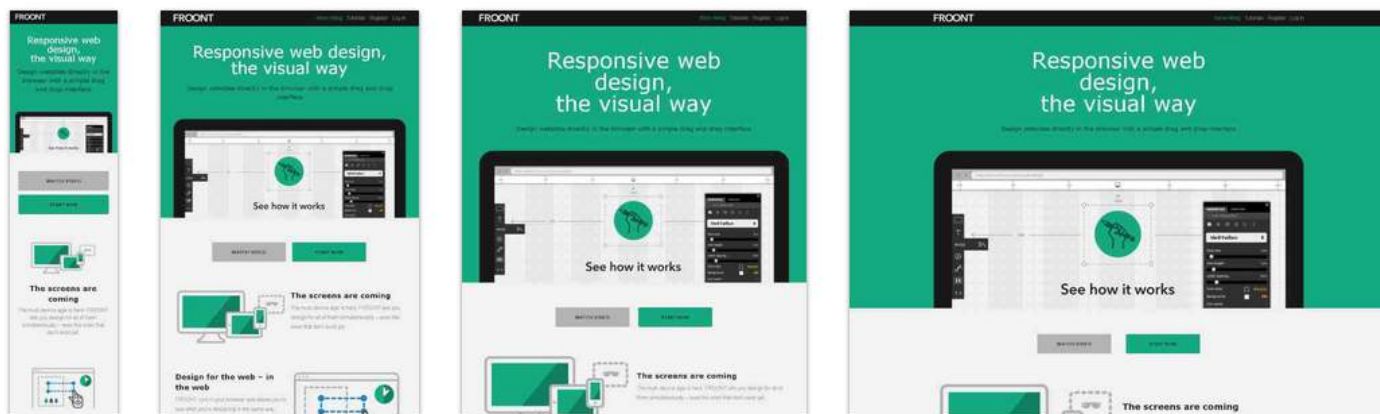
Source: FROONT, is a web-based design tool that runs in the browser and makes responsive web design.www.froont.com

According to Google in 2014, a website must include the following features to be classified as "mobile friendly" by their Googlebots: (1) *it avoids software that is not common on mobile devices (like Flash)*, (2) *Uses text that is readable without zooming*, (3) *Sizes content to the screen so users don't have to scroll horizontally or zoom*, and (4) Places links far enough apart so that the correct on can be easily *tapped.*

In Taiwan, the 87% smart phone users will search for products/services through their mobile phones [17]. Mobile device is an indispensable tool for businesses (including the building relationship with customers, finding potential customers), is the future trend. Therefore, to ensure every customer have a good experience that navigate your site through mobile device.

2.3 User interface quality and customer satisfaction

Despite Taiwan has more than half of consumers use m-shopping, however, compared to 42.9% PC shopping satisfaction, but only 15.4% of consumers are satisfied with the m-shopping experience [17]. So that there are still potential of the interface for m-shopping to develop.

Interface design quality is an area of research that examines how information is displayed [18]. In m-shopping, an interface is often the first connection point. It is therefore important that the good interface is presented, as users will form their

impressions based on this initial information [19]. Numerous studies have assessed such factors as display formats, colors, and graphs versus tables and how these factors affect customer satisfaction [20]. Moreover, all those measure can be directly influencing the Representation of information quality from the way of present that information within application [21]. In addition, there are three principles that need to be followed in designing user interface: 1) let the users be in control of the interface, 2) reduce user's memory load, and 3) make the user interface consistent [22]. To develop effective m-shopping interfaces, this paper chose the seven design elements of the customer interface (7Cs) from Rayport and Jaworski (2001), because they provide a full view framework for analyzing m-shopping interfaces. According to the 7Cs, a customer interface in e-commerce is including context, content, community, customization, communication, connection, and commerce [23].

In addition, Lee & Benbasat (2003) have implemented the 7C's framework to mobile interface. They make the framework more fixable to work within mobile environment. To do this, we can be implemented in developing mobile interface for m-shopping.

2.4 Quality function deployment

QFD was born in this environment as a method or concept for new product development under the umbrella of Total Quality Control. The subtitle "An Approach to Total Quality Control" added to Quality Function Deployment [24]. Professor Yoshizawa mentioned that the significance of QFD in industry, QFD has provided a communication tool to designers. Engineers, positioned midway between the market and production, need to lead new product development. QFD renders a powerful arm to engineers as they build a system for product development [25]. As shown in Table 3, although QFD has been combined with many new ideas, it has rarely been applied in studies related to m-shopping. M-Shopping has already been rapid and has great potential, therefore we can apply QFD into m-shopping to improve user interface quality and consumer satisfaction.

The first phase of QFD, usually called house of quality (HOQ), is of fundamental and strategic importance in the QFD system [27]. Use the HOQ to understand the voice of the customer and to translate it into the voice of the engineer. Subsequent houses continue to deploy the voice of the customer through to parts characteristics, key process operations, and production requirements [26]. In many different products, HOQ methods can be created by practitioners and applied to the products, because each HOQ models can have individual results of key elements to survey the applicable outcomes [27].

Table 3.   Using QFD in different regions during the past 10 years

Authors and the Publish Years	Research Region	Brief description
Lin, 2006	Service quality of hot-spring hotels	Combine QFD's house of quality to put customer care needs into internal process design of hot-spring hotels key operational technology for management in response to important items of quality needs worthy of high priorities, in order to make sure the services provided meet customers' needs and to shorten the distance between customers and service providers.
Ben Clegg, Boon Tan, 2007	Micro-sized enterprise	To show how QFD can be used as part of a structured planning and analysis framework for micro-sized enterprises to build-up their e-business capabilities.
Sangeeta, Sahney, 2008	Online retailing	Based on literature, use QFD to outline the results General online retailing and identify the critical factors for success in online retailing.
Kuo and Chen, 2009	Quality of shopping website designs	Suggestions for improving the quality of website design, used QFD to enhance the competitiveness of their websites in the highly competitive online shopping market.
Sun, Liu, 2010	Improvement of business software process	Proposed SPI framework based on the CMMI using QFD aims to achieve objectives. To develop a method based on QFD for the integration and prioritization of requirements from multiple perspectives.
Zareia, Fakhrzadb, Paghaleh, 2011	Improvement of food supply chain	Used QFD to identify viable Lean Enablers to be practically implemented in order to increase the leanness of the food chain.
Na, Xiaofei,Yang, Ming, 2012	Service quality of power supply	Employing QFD concept on power supply quality appraisal. Results show that which needed to be improved on the first priority, and is consequently helpful for management decision making.
Kamvysia, Gotzamania,	Education – Improvement	Use of an alternative framework for prioritizing students' requirements within QFD. The

Andronikidisb, Georgiouc, 2014	course design	proposed framework is assessed in capturing and prioritizing students' requirements regarding courses' learning outcomes within the process of an academic course design.

3. Research Methodology

In this study, we propose to development customer satisfied with user interface in mobile commerce. First, we should understand the customer needs. After identify customer quality needs, using QFD methodology can find quality elements, and then verify the relationship between customer needs and quality elements. Finally, the application of QFD can satisfy the over-growing need for high quality, m-shopping interface design. Following is our five research steps for the m-shopping interface design model:

3.1 Identify m-customers' quality needs – QFD "WHATs"
This study was focused on consumers who often use mobile devices. We used two stages to collect the customer quality needs.

First we focus group of m-customers interview were performed to identify their needs. In this sampling stage, target m-customers are selected by the researcher in order to acquire necessary and required information. In the interview, a total of 15 m-shopping users (The age between 21 to 25 years old, on average, with 4 to 6 years of experience in using mobile to surf the information) were asked their requirements of mobile store. After the research, we were conducted to attain a preliminary understanding of customer quality needs. The relative information about customer needs acquired from the interviews, then after analyzed entirely and converted into customer quality needs for m-store.

Then, we use the questionnaire which designed based on the interviews to get information about m-customer importance of needs and literature review. The thirteen most important needs were finally selected are listed in Table 4.

After needs items stemming from customers, the KJ method was used to be sorted those items into groups, based on their similar contents or characteristics, for review and analysis. Those items can classify into three major groups: functionality, information and appearance (Seen in Table 5).

Table 4. Quality needs of m-consumers

Search the product	Review previous search	Product compare
Check out	Product selection	Clear page design
Understandable terminologies	Product categories	Spam commercial
Clear introduction about the product	Attractive layout design	Product appearance
Understandable navigation icon		

Below, we state major groups "what's" that we have identified:

- *Functionality*: Is fairly important for the design of m-store, is often called "the key of successful for the mobile website". It's mean every component of site should work quickly and lightly. It is what helps users navigate through the site, use the site features, and find the information they are looking for. A functional mobile website is one where designers estimate the needs of users, and where users can easily find what they need.

- *Information:* In addition to providing simple and fast services, giving users the information they want is also quite important. Mobile website not only provides information, or the information is not coherent or up-to-date, but gives customers "right" information. Users expect integrity service from mobile sites, we have given the correctly information and services what they need.

- *Appearance:* It's the first contact with the customer. A site contains attractive visual effects, it can expressing your products and services. And it can impress and keep visitors on your site once they arrive. i.e., Good use of color, font size for paragraph text between 10 and 12 pts and keep it simple and allow for adequate white space. Don't overload your site with overly complex design. However, you must attract and keep your customers' attention, compared to other competitor's website.

Table 5. Quality needs of m-consumers after used KJ method

Tier one	Tier two
Functionality	*Easy to search the product*
	Easy to review previous search
	Easy to product compare
	Easy to check out
	Easy product selection
Information	*Clear introduction about the product*
	Understandable terminologies
	Easy to find product categories
	Spam commercial
Appearance	*Clear page design*
	Attractive layout design
	Product appearance
	Understandable navigation icon

3.2 Ratings of m-customers' needs

This step use 5-point Likert scale (figure 2) was used for scoring satisfaction and importance. The scaled from extremely unimportant to extremely important (1 to 5) to measure the degree of importance of each customer needs. Then weighting the customer wants estimated by averaging the scores rated. For each m-customers' demands, the average relative importance rating (Wi) is computed by

$$Wi = \sum_{k=1}^{k} gik \div k, i = 1 \dots.. M$$

Which M is number of customer needs, gik is score of importance rating and k is the total number of responses.

Figure 2. 5-point Likert scale

Unimportant   Moderately Important   Very Important
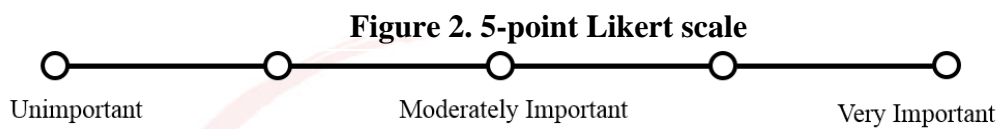
3.3 Ex*tracting interface design* quality elements – QFD "HOWs"

The first step is to confirm that the customer needs, and this step is based on m-store design and needs to develop and communicate the needs of the customer, and to achieve customer needs and improve their satisfaction.

Through *expert interviews* method, discuss with two software engineers and a consultant, and finally get 14 design elements. Then we analyze and classify the customer needs and similar design elements, the development of these interfaces to communicate with each design element / functional requirements to meet customer needs. The 14 design elements classified into three groups (Seen in Table 6): usability, content and aesthetic. Following is we identified the key features related to mobile websites:

- *Usability:* According to George (2004), in the Web context, the term usability [28] covers aspects that influence a site's ease of use, navigability, consistency of functionality across pages etc. [29]. This attribute is highly valued by users, as it ensures that they can actually use the "product". Given the great number of web sites that a user may visit even daily, the demand for effective usability is higher for WWW user interfaces than for normal user interfaces [29]. In addition, a usable site is one where the user can easily find what he is looking for, no-matter how deep and broad the content is, and is supported by the existence of an efficient search mechanism, although we cannot simply rely on search as the main navigation feature. Navigational structure and overviews are necessary to avoid user confusion and should be provided both in the large (server structure and location) and

in the small (structure for the individual pages with iconic markers for the various types of information) [29].

- *Content:* Bill Gates (1996) declared "CONTENT IS KING"! This phrase is mean that internet marketers have to denote the importance of a website's content from the customers' views. Content is the reason that people visit your website. But many software developers excessive emphasis on create the prettiest page and ignore the content. What good content is? i.e., to creating good content for your website is to be sure that your content will have specific appeal to your target audience. [31] Also create content use simply words and articles about product is in, this ensures that your visitors can understand clearly. On a final note, always try to update your content people will become regular visitors and will be exposed to the products and services you offer. This is turn will equal more sales and profit.[31]

- *Aesthetic:* The importance of aesthetics in website design and its effect on users' impressions. An effective response to the website's aesthetics may improve consumers' mood and their overall evaluations of the website. Also researches showed that the aesthetic value of a product pertains to the pleasure derived from seeing the product, without consideration of utility [32]. In HCI literature, it has been suggested that "beautiful is usable" in website design [33]. Therefore, aesthetic is an important architectural dimension for websites since it enhances a customer's pleasure as they browse and find relevant information, and consumers are likely to return to a website if it provides an interesting and entertaining interface experience [32].

Table 6. Quality needs of m-consumers after used KJ method

Tier one	Tier two
Usability	*Independent input box*
	One-click checkout
	Multiple payment methods
	Auto fill function
Content	*Detail Product information*

	Interactive Links (YouTube, Facebook etc.)
	Text simple and easily readable
	Easy sharing to social media
	Clarity of options
Aesthetic	*Simple/Clear m-shopping design*
	Product full views (365 ° views)
	Sliding image to view the info.
	Enable pinching to zoom
	Each page limit the number of menu

3.4 Create HOQ table － Relationship between "HOWs" and "WHATs"

To make each design element, corresponding to the needs of each customer attributes, we need to consider the design elements meet the properties of customer needs. This step requires an experienced software engineer based on their expertise and experience to develop the mobile website, and cooperate with each other in order to achieve the customer needs, then consensus between requirements and design. For the relationship between each design elements and the customers' needs, to indicate the degree of strengths of relations between them, we defined a four level rating scale "0 = non relationship, 1 = weak relationship, 5 = medium relationship, 9 = strong relationship."

For example (Table 7), the rating scale can also presented in symbols (◎ strong =9 ,○ medium = 5,△ weak = 1). In HOQ matrix is can apparent a strong, medium and weak relationship between "How's "and "What's".

Table 7. A typical HOQ matrix

		Design quality elements			
		H1	H2	H3	H4
M-customer Needs "VOC"	W1	◎			
	W2	Δ	○	Δ	○
	W3	○	Δ	◎	Δ
	W4		◎		○

This matrix is represent the relationship between "WHATs" and "HOWs", and get an entire identification and prioritization. Thus, HOQ offers the advantage of easier ways to transition between the voice of customer and engineer.

3.5 Ratings of design quality elements
This step we calculates the absolute importance for each design element. The accuracy of the results will be affected the relationship matrix, matrix of consistency and quality is very important. For example, the absolute importance (HA_j) of design quality element (H_j) can know via the computing paradigm by

$$HA_j = \sum_{i=1}^{D} W_i R_{ij}, \qquad D \geq 1$$

Which m-customers' needs importance degrees (W_i) multiply by matrix relationship weight (R_{ij}) and D is number of design quality elements. And for relative important (HR_j) (meaning about to standardize), the following formulations were used:

$$HR_j = HA_j \div \sum_{i=1}^{D} HA_i, \qquad D \geq 1$$

For example, the relative important of design quality elements *"clarity of options"* is 13.74 %, this data is important to its initial weight by 6.85 divided by the sum of 49.86. This result also may be used on site functionality or customer needs. The last presentation of the data relative weight percentages, so that mobile developers/m-marketers can grasp the key design elements and customer needs.

4. Conclusion

M-commerce is beneficial for businesses. It provide the close communication and convenient add-value services for customers. So through M-commerce can make business scale gets large and wild range of market place. This paper aims to examine

the factors in design mobile-friendly sites that affect the customer satisfaction of shopping through mobile device. Furthermore, the goal of this study is to identify customer requirements and find the relative design elements that affect the mobile user experience. According to pervious study, the mobile sites with good user friendly interface can make customer easier to understand, provide good quality of service and make work more efficiently etc.

In order to improve user interface design quality, this study use QFD methodology. And according to the completed HOQ, we sorted the importance of design elements and the top five are: (1) One-click checkout, (2) Simple/Clear interface design and (3) Sliding image to view the information (4) Clarity of options, (5) Number of menu display. Therefore, when engineers design the mobile interface have to notice those items.
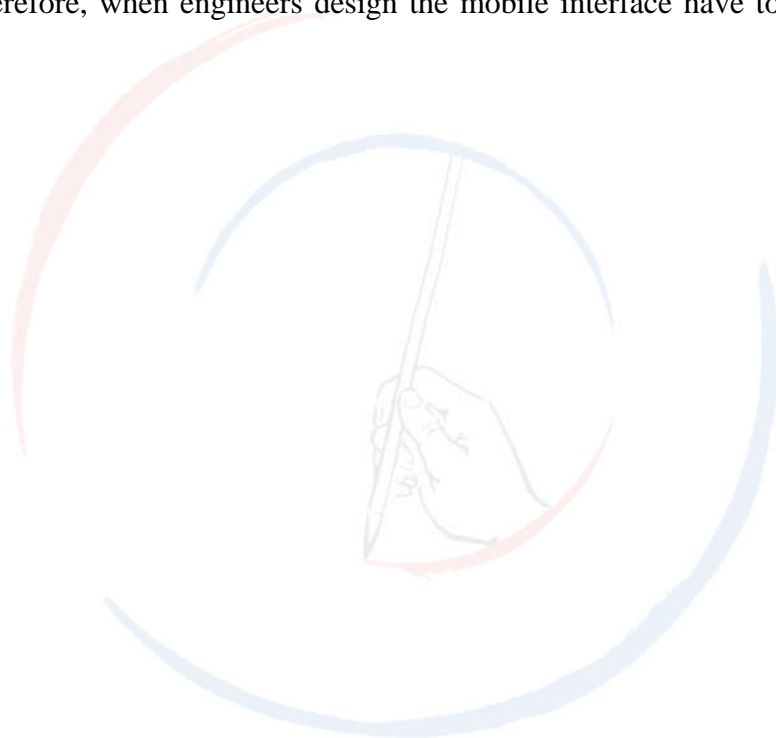
References

1. Mennecke, B. E., & Strader, T. J. (Eds.). (2003). Mobile commerce: technology, theory, and applications. IGI Global.

2. Lee, Y. E., & Benbasat, I. (2003). Interface design for mobile commerce. Communications of the ACM, 46(12), 48-52.

3. Tiwari, R., & Buse, S. (2007). The mobile commerce prospects: A strategic analysis of opportunities in the banking sector (p. 33). Hamburg: Hamburg University Press.

4. Lin, H. H., & Wang, Y. S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. Information & management, 43(3), 271-282.

5. Aarnio, A., Enkenberg, A., Heikkila, J., & Hirvola, S. (2002, January). Adoption and use of mobile services. Empirical evidence from a Finnish survey. In System Sciences, 2002. HICSS. Proceedings of the 35th Annual Hawaii International Conference on (pp. 1454-1463). IEEE.

6. Fang, X., Chan, S., Brzezinski, J., & Xu, S. (2003). A study of task characteristics and user intention to use handheld devices for mobile commerce. SIGHCI 2003 Proceedings, 5.

7. Stanley, K. M., Smith, M. J., Carayon, P., & Salvendy, G. (2001). Human–computer interaction. Handbook of Industrial Engineering: Technology and Operations Management, Third Edition, 1192-1236.

8. Cyr, D., Head, M., & Ivanov, A. (2006). Design aesthetics leading to m-loyalty in mobile commerce. Information & Management, 43(8), 950-963.

9. Siau, K., & Shen, Z. (2003). Building customer trust in mobile commerce. Communications of the ACM, 46(4), 91-94.

10. Venkatesh, V., Ramesh, V., & Massey, A. P. (2003). Understanding usability in mobile commerce. Communications of the ACM, 46(12), 53-56.

11. Jiang, Z., & Benbasat, I. (2003). The effects of interactivity and vividness of

functional control in changing web consumers' attitudes. ICIS 2003 proceedings, 93.

12. Rosen, D. E., & Purinton, E. (2004). Website design: Viewing the web as a cognitive landscape. Journal of Business Research, 57(7), 787-794.

13. Garrett, J. J. (2004). The Elements of User Experience. Jjg. net.

14. Lu, H. P., & Yu-Jen Su, P. (2009). Factors affecting purchase intention on mobile shopping web sites. Internet Research, 19(4), 442-458.

15. Kleijnen, M., De Ruyter, K., & Wetzels, M. (2007). An assessment of value creation in mobile service delivery and the moderating role of time consciousness. Journal of Retailing, 83(1), 33-46.

16. Stafford, T. F., & Gillenson, M. L. (2003). Mobile commerce: what it is and what it could be. Communications of the ACM, 46(12), 33-34.

17. Google website (2014),"Consumer Barometer Survey" in Taiwan, from https://www.consumerbarometer.com/en/

18. Bharati, P., Chaudhury, A., (2004). An empirical investigation of decision-making atisfaction in web-based decision support systems. Decision Support Systems 7, 187–197.

19. Everard, A., Galletta, D., (2006). How presentation flaws affect perceived site quality, trust, and intention to purchase from and online store. Journal of Management Information Systems 22 (3), 55–95.

20. Lee, K. C., & Chung, N. (2009). Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified DeLone and McLean's model perspective. Interacting with computers, 21(5), 385-392.

21. Abramowicz, W., Bassara, A., Filipowska, A., Wiśniewski, M., & Żebrowski, P. (2006). Mobility implications for m-government platform design. Cybernetics and Systems: An International Journal, 37(2-3), 119-135.

22. Mandel, T. (1997). The elements of user interface design (Vol. 20). New York:

Wiley.

23. Rayport, J. F., & Jaworski, B. J. (2002). Introduction to e-Commerce. McGraw-Hill/Irwin marketspaceU.

24. Mizuno, Shigeru and Yoji Akao ed. (1978). Quality Function Deployment: A Company Wide Quality Approach. (in Japanese) JUSE Press.

25. Yoshizawa Tadashi (1997). Origins and Development of Internationalization of QFD.　(Japanese) Proceedings of the Sixth Symposium on QFD.

26. Hauser, J. R., & Clausing, D. (1988). The house of quality, 63-73

27. Chan, L. K., & Wu, M. L. (2005). A systematic approach to quality function deployment with a full illustrative example. Omega, 33(2), 119-139.

28. Jared M. Spool (Ed.). (1999). Web site usability: a designer's guide. Morgan Kaufmann.

29. Nielsen, J. (1999) Useit.com. Alertbox, Papers and Essays. Accessed September 1999. Available at: http://www.useit.com

30. Ioannou, G., Pramataris, K. C., & Prastacos, G. P. (2004). A Quality Function Deployment Approach to Web Site Development: Applications for Electronic Retailing. Les Cahiers du Management Technologique, 13(3), 1-18.

31. David Callan (2010), Internet Marketing Articles - Content is king, from http://www.akamarketing.com/content-is-king.html

32. Cai, S., Xu, Y., & Yu, J. (2008, April). The effects of web site aesthetics and shopping task on consumer online purchasing behavior. In CHI'08 extended abstracts on Human factors in computing systems (pp. 3477-3482). ACM.

33. Lavie, T., & Tractinsky, N. (2004). Assessing dimensions of perceived visual aesthetics of web sites. International journal of human-computer studies, 60(3), 269-298.

34. EZprice (2014), Taiwan shop platform big competitions in 2014, from

http://news.ezprice.com.tw/3679/

35. Sucharita Mulpuru (2014), Who Does Mobile Commerce Well?, from
    http://blogs.forrester.com/sucharita_mulpuru/14-11-13-who_does_mobile_comme
    rce_well

36. Roger Renteria (2012), What is a mobile friendly site,
    from http://writetechie.com/2012/03/20/what-is-a-mobile-friendly-site/

37. Masha Fisch (2012), Google Mobile Ads Marketing, Mobile-friendly sites turn
    visitors into customers, from
    http://googlemobileads.blogspot.tw/2012/09/mobile-friendly-sites-turn-visitors.ht
    ml
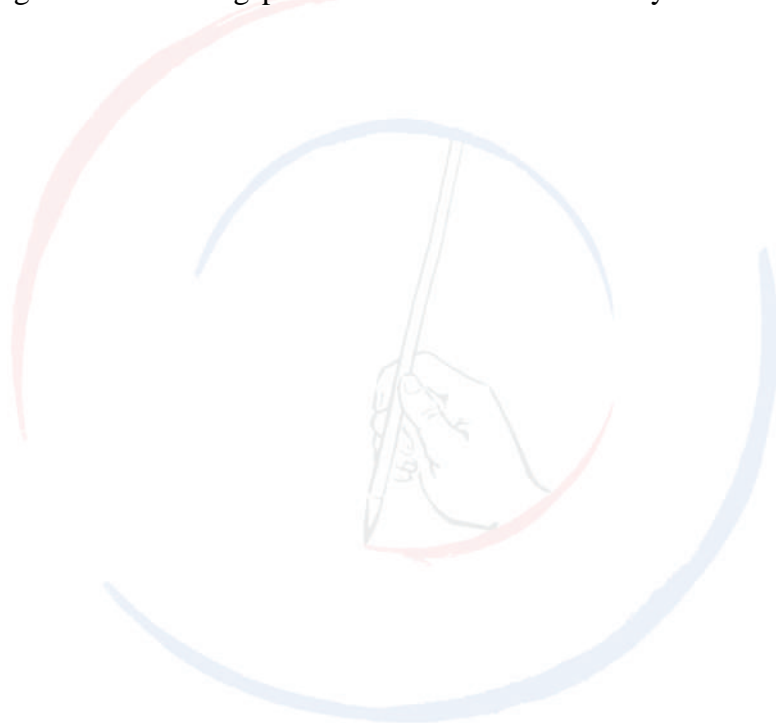
Consumer Guilt, Online Resale and Purchase Intention

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Abstract

Consumer guilt is a critical factor affecting consumers' purchase decisions. Marketers would apply various strategies to reduce the sense of guilt so consumers can be more willing to spend the money. With the popularity of online auction, consumers can easily resell unwanted online by themselves, and the return of the resale may lower their sense of guilt toward buying a new product. Thus, the goal of this research is to investigate the relationship between an online resale awareness of a desired product, consumer guilt and purchase intention toward a desired product. Using a literature review, a conceptual model of consumer awareness of a resaleable item on consumer guilt and purchase intention of a new item is presented and corresponding research hypothesis are developed based on the existing literature. Finally, conclusions for further research are discussed.

Keywords: consumer behavior, consumer guilt, consumer resale, internet

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Introduction

When you want to buy the newly launched iPhone 6, the price may give you a sense of consumer guilt, which can stop you from buying the phone. What if the phone can be resold on the Internet for a high price even after it has been used for a while? Would that reduce your sense of guilt and make you more willing to buy the phone?

Consumer guilt is a critical factor affecting consumers' purchase (Burnett & Lunsford, 1994), and marketers would apply various strategies, including cause-related marketing (Strahilevitz & Myers, 1998) and the pre-paid system (Prelec & Loewenstein, 1998), to reduce the sense of guilt so consumers can be more willing to spend the money. If consumers can use the Internet to sell their items to lighten the burden of shopping, the sense of guilt generated from shopping might be reduced, and that can affect their shopping behavior.

With the booming of e-commerce, it is now pretty common for consumers to sell their items on the Internet. According to Market Intelligence & Consulting Institute (2010), the amount of online trading via the customer to customer (C2C) mode has reached 153 billion in Taiwan, which accounts for 43% of the overall amount of online trading. As consumers start to act as retailers, the two major branches of conventional marketing theories, marketing strategies and consumer behavior, may require some adjustments because when shopping, consumers nowadays are also thinking about reselling what they buy. In other words, consumer behavior is no longer about buying only (Chu & Liao, 2007, 2010). There are a variety types of motivation behind consumers' resale of their goods, including some utilitarian reasons such as for the monetary returns (substantively) and hedonic reasons such as for a sense of achievement, for fun, for social activities, or even for reducing the sense of guilt from impulsive shopping (Chu, 2013). Under the same condition, consumers would purchase goods with a higher resale reference price (Chu & Liao, 2010; Liao & Chu, 2013). The above findings suggest that consumers' buying behavior and reselling behavior are quite related.

Previous studies on consumer guilt stress that marketers can use advertising or cause-related marketing to affect consumers' sense of guilt generated from shopping in order to encourage their spending on merchandise. Integrating findings on consumer online resale behavior and on consumer guilt, the study proposed another perspective: consumers use the behavior of reselling previously bought merchandise online to reduce their sense of guilt on their own. The popularization of online trading

provides consumers with an easy access to resell their goods, making consumer reselling for lowering a sense of guilt a newly emerged type of consumer behavior. Focusing on consumer guilt, this study investigates the association among consumer guilt, online reselling behavior, and new product purchase intention.

Previous studies have shown that when consumers perceive that the desired products they want to buy or the older product they currently own (of the same type) can be resold, their new product purchase intention will be enhanced (Chu & Liao, 2010; Liao & Chu, 2013). Nonetheless, these studies adopted the mental accounting perspective. According to these studies, consumers when buying goods would mentally integrate the account of shopping expenditure with the account of reselling in the future, and the result decreases the perceived shopping expenditure while boosting the purchase intention.

The present study explains the phenomenon from a different perspective: consumer guilt. For example, compared with everyday necessities, cell phones are merchandise with a high unit price. As a result, purchasing a cell phone is associated with not only certain risks but also consumer guilt. In addition, cell phones go outdated pretty quickly. For many people, the reason they change their cell phones is to get a new style or for some new functions rather than to replace an unusable one. Nevertheless, getting rid of an older but still usable cell phone may generate consumer guilt; people may fear that they do not spend their money wisely, and the fear may reduce their new product purchase intention. In this case, what is discouraging consumers from buying new products is not the price of products but consumer guilt. This common shopping scenario is used here to discuss the effect of consumer resale behavior on consumer guilt and consumers' new product purchase intention.

Theoretical foundation

1. **Consumer Guilt**

Consumer guilt is a negative type of affection produced by consumers subjectively believing that their purchase decision or behavior has violated their personal value or the social moral or regulations (Burnett & Lunsford, 1994; Lascu, 1991). Previous studies frequently explore the sense of guilt on advertising, and in general, it is considered that advertisement using guilt appeals can affect consumers' decision making (Cotte & Ritchine, 2005; Hibbert, Smith, Davies, & Ireland, 2007). Common topics of guilt study related consumer behavior are as follows: impulsive consumption (Miao, 2011; Rook & Fisher,1995), compulsive consumption (O'Guinn & Faber,

1989), hedonic consumption and luxury goods purchase (Strahilevitz & Myers,1998), consumer indulgences (Belk, Ger & Askegaard, 2003; Okada, 2005), self-regulatory (Shefrin&Thaler, 1988), classifications of consumer guilt (Bei, Lin & Yu, 2007), impacts from consumer guilt (Prelec & Lowenstein, 1998), and consumer coping responses(Duhachek, 2005). Most studies on advertising are examining the association between guilt appeals and consumer purchase behavior; few of them explored the domain of consumer guilt and consumer resale intention, especially the possibility of consumers using the Internet to resell goods to reduce guilt, resulting change in their purchase intention.

Using the focus group method, Burnett and Lunsford (1994) proposed four types of consumer guilt: financial guilt, health guilt, moral guilt, and social responsibility guilt, and each of them is described below.

(1)Financial guilt

Financial guilt happens when there is no justification for buying a product. For example, the desired product is not needed or it is not worth of that much money. When consumers can buy a product with a lower price but do not do so, financial guilt would arise. Financial guilt also arises following impulsive buying or the purchase of luxury goods. To reduce financial guilt, "because you deserve it" and "you work hard for it" are two common slogans used in diamond advertisements.

(2)Social responsibility guilt

Social responsibility guilt is about consumers recognizing that their purchase behavior would violate their social responsibilities (such as making no donation, generating lots of waste, without presenting a gift in return after receiving one). Many public welfare oriented TV commercials choose to use this appeal to communicate with consumers and to remind them to participate in charity events.

(3) Health guilt

Health oriented guilt arises when consumers consider that they are not taking a good care of their health because of smoking or eating high calorie food. Diet food, fitness equipment, or health food products often use this appeal to attract consumers.

(4) Moral guilt

Moral guilt arises when a buying decision breaches an individual's moral sense. For example, some religious groups believe that gambling or alcohol drinking is immoral, while those selling condoms or insurance would use the appeal of caring the one we love or taking the responsibility to affect consumers.

As for the timing, according to Burnett and Lunsford (1994), guilt can be classified into anticipatory guilt, which arises before buying, and reactive guilt, which arises after buying. Lin and Xia (2009) proposed a third type of guilt, which is called proceeding guilt, and it happens at the time we pay for the purchased goods. Scholars consistently regard buying luxury goods or hedonic goods as more likely to induce consumer guilt because these products, in contrast to necessities, are usually much more expensive. As a result, consumers have to justify their purchase of luxury goods or hedonic goods. (Kivetz, 1999; Prelec & Loewenstein, 1998; Thaler, 1980, 1985). Studies have suggested that by reducing consumer guilt, consumers' willingness of buying hedonic goods would be increased (Strahilevitz & Myers, 1998), and therefore, marketers should work on developing guiltless consumption and prevent the sense of guilt from affecting consumers' purchase intention (Lascu, 1991).

A feasible way is to use the prepaid system to allow consumers to enjoy the paid product like it is free to reduce the pain from paying (Prelec & Loewenstein, 1998). Another approach is to let consumers believe they deserve this kind of wonderful treatment earned by their hard-working (Kivetz & Simonson, 2002). In addition, cause-related marketing can be applied, i.e., linking consumers' purchase with benevolent acts to reduce consumers' sense of guilt so their purchase intention can be boosted (Strahilevitz & Myers, 1998).

Consumers know how to deal with the sense of guilt too, and one strategy is perform "mental accounting" (Thaler, 1985), which is related to self-regulatory mechanism (Shefrin &Thaler, 1988). According to the concept, an individual would classify matters about to happen and decisions about to be made, self-interpret them, and evaluate them in order to maximize the efficacy. For example, consumers would undergo mental budgeting, which comprises the followings components. (1)Labeling: Consumers would "label" their money based on the source of the income and their attitude. For example, compared to the income from hard work, people would feel less painful to spend their windfall income (Ha, Hyun, & Pae, 2006; Hodge & Mason, 1995; Shafir & Thaler, 2006; Thaler, 1985).

This offers an explanation for the phenomenon "house money effect" (Thaler & Johnson, 1990). That is, when a gambler loses money won from the house, the gambler is unlikely to feel losing the money; After all, the money they lost is the money from the house instead of from their own pocket. Consequently, the sense of guilt would be reduced. (2)Tracking: Consumers would record or memorize how they spend certain types of budgets, especially those highly discriminative and easily

classified ones. For example, the money spent on watching movies can be pretty easily classified as the "entertainment" type of expenditure, while the classification of money spent on dinner is more depending on the occasion (Heath & Soll, 1996).

The term consumer guilt in this study is mainly the financial type of guilt. The investigators defined consumer guilt as an anticipatory type of guilt. That is, consumers would experience a sense of guilt before buying a new product because of the money about to be paid for the product.

2. Reference Price

To study consumer online resale behavior, Chu and Liao (2010) defined the concept of "resale reference price" as "the potential market price of resold items individual can infer based on market information". Because resale reference price is related directly to the cost and benefit of possessing a product, it is an important factor which may affect consumer resale behavior and purchase decisions. When consumers are reselling their goods, they are also acting as sellers, and therefore, consumer resale reference price is a price perceived by consumers at reselling for the target item to be resold successfully. This concept, though different from the reference price at shopping, would also affect consumers' willingness for reselling their goods.

Chu and Liao (2010) used the mental accounting theory in their empirical study and found that before buying a cell phone, if consumers sensed that the desired new cell phone can be resold, they would be more willing to buy the cell phone. Moreover, when the resale price of the cell phone is higher, consumers' purchase intention would be higher too. Because consumer can integrate the cost of buying and the income from resale these, and the sum of the price paid and the income from resale implies the perceived total amount of money presently paid by the consumer. The above-mentioned study is the first study that linked consumers' purchase intention to resale behavior and verified such a link. These authors demonstrated that consumers can indeed use the resale of goods to persuade themselves on buying goods. The resale of a desired cell phone is a type of planned resale because before buying the product, the consumer is already thinking about reselling it. In a study about unplanned resale, Liao and Chu (2013) demonstrated that when consumers sense that the cell phone they presently own can be resold, their willingness for buying a new cell phone would be boosted immediately, and the degree of increase of their purchase intention is greater than the degree induced by learning that the desired new cell phone can be resold. This difference is mainly because consumers can recover the

cost already paid, and this type of income is similar to the unexpected income (Hodge & Mason, 1995).

When buying a product, the trading price is a key factor affecting consumers' decision making. When consumers want to resale the product, the trading price of the product is also a decision-making factor. Therefore, the concept of reference price is applied here to explore the resale reference price and resale behavior. The aim of the study is to explore the association among consumers' resale behavior, consumer guilt, and purchase intention. More specifically, resale reference price may be a critical factor affecting the sense of guilt. When buying goods is linked to the reselling of the goods, a higher resale price implies that more money can be recovered, implying that less money paid for buying the goods. As a result, the sense of guilt of buying would be lowered.

Conceptual framework and hypothesis

According to consumer guilt related studies, consumers would generate anticipatory guilt before buying goods (Burnett & Lunsford , 1994) and/or proceeding guilt at the time of paying for the goods (Lin & Xia, 2009). Either guilt would induce unpleasant feeling, reducing consumers' willingness for purchasing goods. Moreover, consumer may therefore lose the justification for the purchase (Kivetz, 1999; Prelec & Loewenstein, 1998; Thaler, 1980 & 1985). "Knowing that the desired product can be resold in the future" is a justification that increases consumers' purchase intention. Therefore, we made the following hypothesis about when consumers know that the desired new cell phone can be resold.

H1-1: Prior to a purchase, consumers with high resale awareness of reselling a good online after acquiring it have higher purchase intention than those with lower resale awareness.

When the resale reference price is higher, consumers would consider that more money can be collected from reselling the product in the future, and thus they may believe that they are paying less now. In this case, their purchase intention for the new desired product would be higher (Chu & Liao, 2010; Liao & Chu, 2013). Another possibility is that when the resale reference price, i.e., the secondhand price, is higher, the residual value of the product is higher too, making the product a high quality one that is worth of buying. As a result, we made the following hypothesis.

H1-2: Among consumers with higher resale awareness, a higher resale reference price is associated with a higher desired product purchase intention.

A higher resale reference price implies that more money would be collected in the future from reselling. In this case, the financial guilt, a type of consumer guilt, would be lower, and consumers' new product purchase intention would be higher. We made the following hypothesis.

H1-3: Among consumers with higher resale awareness, a higher resale reference price is associated with lower consumer guilt.

Consumer guilt is a negative type of affection generated from making a consumer decision or engaging in consumer behavior that violates the personal value or social moral value or regulations (Burnett & Lunsford, 1994; Lascu, 1991). Lower consumer guilt is associated with higher product purchase intention. Therefore, we made the following hypothesis.

H1-4: Among consumers with higher resale awareness, lower consumer guilt is associated with a higher new product purchase intention.
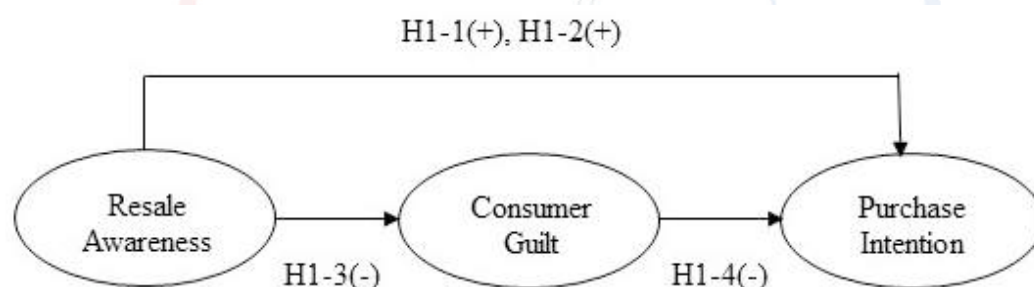
Figure 1: Conceptual Framework

Future research direction

In present study, a conceptual model of consumer awareness of a resaleable item on consumer guilt and purchase intention of a new item is presented and corresponding research hypothesis are developed. Clearly, future research can start with the empirical examination of the factors and hypothesis. A study with between-subjects designs could be conducted online to examine the effects of consumer awareness of a resaleable item on consumer guilt and purchase intention of a new item under different situations. Focusing on consumer guilt, the framework of this study investigates the association among consumer guilt, online reselling behavior, and new product purchase intention. The study proposed that consumer guilt from purchasing can be reduced by the idea of reselling goods, which in turns will boost consumers' purchase intention.

References

Bei, L. T.; Lin, Y. T & Yu, C. M. (2007). The relationship between consumer guilt and shopping behavior. *Advances in Consumer Research*, *34*, 405-408.

Belk, R. W., Ger, G. & Askegaard, S. (2003). The fire of desire: A multisided inquiry into consumer passion. *Journal of Consumer Research*, *30*(3), 326-351.

Burnett, M. S. & Lunsford ale D. A. (1994).Conceptualizing Guilt in the Consumer Decision-Making Process. *Journal of Consumer Marketing*, 11(3), 33-43.

Chu, H. & Liao, S. (2007). Exploring consumer resale behavior in c2c online auctions: Taxonomy and influences on consumer decisions. *Academy of Marketing Science Review*, *11*, 1-27.

Chu, H. & Liao, S. (2010). Buying while expecting to sell: The economic psychology of online resale. *Journal of Business Research*, *63*(9-10), 1073-1078.

Chu, H. (2013). A conceptual model of motivations for consumer resale on C2C websites. *The Service Industries Journal*, *33*(15-16), 1527-1543.

Cotte, J. & Ritchie, R. (2005). Advertisers' theories of consumers: why use negative emotions to sell? *Advances in Consumer Research*, *32*, 24-31.

Duhachek, A. (2005). Coping: A Multidimensional, Hierarchical Framework of Responses to Stressful Consumption Episodes. *Journal of Consumer Research*, *32* (1), 41-53.

Ha, H. H., Hyun, J. S., & Pae J. H. (2006). Consumers' mental accounting in response to unexpected price savings at the point of sale. *Marketing Intelligence & Planning*, *24*(4), 406-416.

Heath, C., & Soll, J. B. (1996). Mental budgeting and consumer decisions. *Journal of Consumer Research*, *23*(June), 40-52.

Hibbert, S., Smith, A., Davies, A., & Ireland, F. (2007). Guilt appeals: Persuasion knowledge and charitable giving. *Psychology and Marketing*, *24*(8), 723-742.

Hodge, S. K. & Mason, C. H. (1995). Work versus windfall: An exploration of saving on subsequent purchase. *Marketing Letters*, *6*(2), 91-100.

Kivetz, R. (1999). Advances in research on mental accounting and reason-based choice. *Marketing Letters*, *10*(3), 249-266.

Kivetz, R., & Simonson, I. (2002). Earning the right to indulge: Effort as a determinant of customer preferences toward frequency program rewards. *Journal of Marketing Research*, *39*(2), 155-170.

Lascu, D. N. (1991). Consumer guilt: examining the potential of a new marketing construct. *Advances in consumer research*, *18*(1), 290-295.

Liao, S., & Chu, H. (2013). Influence of consumer online resale awareness on purchase decisions: a mental accounting perspective. *European Journal of Marketing*, *47*(10), 1576-1597.

Lin, Y. T., & Xia, K. N. (2008). The relationship between consumer guilt and product categories. *Advances in Consumer Research*, *8*, 332-333.

Market Intelligence & Consulting Institute (2010), "Taiwan 2010 e-commerce market size", available at: http://www.iii.org.tw/service/3_1_4_c.aspx?id=127

Miao, L. (2011). Guilty pleasure or pleasurable guilt? Affective experience of impulse buying in hedonic-driven consumption. *Journal of Hospitality and Tourism Research*, *35*(1), 79-101.

O'Guinn, T. C. & Faber, R. J. (1989). Compulsive buying: A phenomenological exploration. *Journal of Consumer Research*, *16*(2), 147-157.

Okada, E. M. (2005). Justification effects on consumer choice of hedonic and utilitarian goods. *Journal of Marketing Research*, *42*(1), 43-53.

Prelec, D. & Loewenstein, G. (1998). The red and the black: mental accounting of savings and debt. *Marketing Science*, *17*(1), 4-28.

Rook, D. W., & Fisher, R. J. (1995). Normative influences on impulsive buying behavior. *Journal of Consumer Research*, *22*(December), 305-313.

Shafir, E., & Thaler, R. H. (2006). Invest now, drink later, spend never: On the mental accounting of delayed consumption. *Journal of Economic Psychology*, *27*(5), 694-712.

Shefrin, H. M., & Thaler, R. H. (1988). The behavioral life cycle hypothesis. *Economic Inquiry*, *26*(4), 609-643.

Strahilevitz, M. & Myers, J. (1998). Donations to charity as purchase incentives: How well they work may depend on what you are trying to sell. *Journal of Consumer Research*, *24*(4), 434-446.

Thaler, R. H. & Johnson, E. (1990). Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice. *Management Science*, 36, 643-660.

Thaler, R. H. (1980). Towards a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, *1*, 39-60.

Thaler, R. (1985). Mental accounting and consumer choice. *Marketing Science*, *4*(3), 199-214.

The Effectiveness of Cognitive Behavior Therapy Group Counseling on Anger and Aggression Among Prisoners in Malaysia

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Abstract

The purpose of this study was to examine the effectiveness of cognitive behavioral therapy group counseling in reducing both anger and aggression among male prisoners. A pre-test and post-test research design was used to compare the effectiveness of cognitive behavior between groups. A total of 20 prisoners participated in this study. The subjects were randomly assigned into experimental group (N=10) and control group (N=10). The experimental group received eight sessions of group counseling while control group did not receive any treatment. The State -Trait Anger Expression Inventory-2 (STAXI- 2) and Aggression Questionnaire (AQ) were used to measure anger and aggression behavior. Using ANCOVA, the results have indicated significant differences in anger scales between the experimental and control group, except for anger expression-in, anger control-out, and anger control-in. The results have also shown significant differences in aggression between groups. The implications of the findings and suggestions for future research are discussed.

Keywords: Counseling, Anger, Aggression, Cognitive Behavior Therapy, Prisoners

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Introduction

Emotions are a state characterized by physiological arousal and changes in facial expression, gestures, posture, and subjective feelings (Coon & Mitterer, 2010). Life without emotions may feel empty and meaningless, because emotions shape our relationship and colour our daily activities. By providing a signal indication of the level of internal and our intentions, emotions can influence on how people act and react to others. Emotions are often associated with rational or irrational behavior. For instance anger is one of the primary emotions that can cause irrational behavior. Other primary emotions, including surprise, anticipation, trust, and joy (Plutchik, 2003), would lead to rational behavior. All these emotions are universal emotions and an incredibly important part of our lives.

Anger, though a basic human emotion, has received much less attention in the emotion literature than other areas such as depression, satisfaction, and fear. Anger is a normal feeling experienced irrespective of age, ethnicity, culture, and religion (Koellhoffer, Murphy & Banas, 2008). Most adults will experience anger episodes every single day (Kassinove & Tafrate, 2006). The action of anger, for instance, is to try harder, to aggress, or both, which is appropriate to the eliciting condition of an active plan being frustrated. Thus, anger may become negative based on its frequency, intensity, and expressive behavior (DiGuiseppe & Tafrate, 2007). Higher anger intensity and frequency will lead to harmful effects of unmanaged and uncontrolled anger on both individuals and people. In other words, anger sometimes promotes an effort to inflict pain or harm on the offending other (Carver & Harmon-Jones, 2009). Therefore, information about anger helps the individuals to seek for therapy and is also an important resource that can help counselors redesign anger therapy.

Anger will not arise for any reasons that cause a person to feel angry. Several factors may lead to anger, such as injustice, inequality, dissatisfaction with others, and so on (Marby & Kiecolt, 2005). Anger is also caused by frustration and stress experienced due to the rapid pace of technology and the increasing of socio-economic status (Orloff, 2009). Relating anger with negative psychosocial and interpersonal consequences, various studies report that lack of social support, interpersonal difficulties, lack of coping skills, and mental health problems (Kroner & Reddon, 1995; Kassinove & Sukhodolsky, 1995; Lochman, Barry & Pardini, 2003) have all been shown to significantly contribute to anger. Anger is not only linked to negative psychological consequences but also increases vulnerability to physical illnesses, compromises the immune system, increases pain, and increases the risk of death from cardiovascular disease (Suinn, 2001; Chida & Steptoe, 2009).

The inability to address growing anger can be seen as a result of the occurrence of crimes and aggression. Individuals with higher anger may become involved in physical and verbal attacks against the objects or other people. Some individuals may aggressively act in expressing anger such as sabotage, starting rumours, pouting, stalling, and disrupting the actions of others (Deffenbacher, 2011). Even people with high anger are more than double to engage in some types of negative verbal responses, act physically aggressive, and use substances (Tafrate, Kassinove & Dundin, 2002). However, reports from previous studies suggested that anger does not always lead to aggression.

Aggression is a behavioral act resulting in harming or hurting others. Aggression is commonly viewed as either proactive or reactive; overt (assault) or covert (theft); or physical, verbal, or relational (Lochman et al., 2010) while anger is a negative, phenomenological feeling state that motivates desires for actions, usually against others, that aim to warn, intimidate, control, or attack, or gain retribution (Kassinove & Tafrate, 2006).

Several studies have found that most of prisoners, especially those who were involved in crime and drug addictions, were found to be emotionally imbalanced (Udrow, 2008; Chan, 2009). One of the emotional imbalanced among them was, anger which is difficult to control (Vannoy & Hoyt, 2004 ; Udrow, 2008; Chan, 2009). As a result, anger will affect their actions and behavior, eventually leading to involvement in aggressive criminal activities (Akbari et al., 2012; Udrow, 2008). Chan (2009) suggested that most of the prisoners who were involved in criminal activities were unable to control their anger and were more aggressive.

Emotional upset and anger can incite the individual act aggressively, which they are involved in crimes such as murder (Pincus, 2001), domestic violence (Norlander & Eckhardt, 2005; Murrell, Christoff & Henning, 2007), child abuse (Slep & O'Leary, 2007; Stith et al., 2009) drug addiction, rape (Kellaway, 2009), destructive and violent crime (Del Vecchio & O'Leary, 2004; Novaco, 1997). Byrne et al. (2001) proposed that expressing anger is the strongest prediction of aggression among prisoners and it relates to physical violence. Mills, Kroner & Forth (1998) also noted that the high measurement over anger was associated with inmates who engage in crime violence when compared with inmates who were not involved in crime violence. Furthermore, mean trait, anger out and anger in scores were significantly higher in prisoners with criminal recidivism in comparison with those who did not have prior criminal records (Corapcioglu & Erdogan, 2004). One study conducted by Norlander & Eckhardt (2005) showed that men who were act violently aggressive towards their partners have higher levels of hostility and anger than that of men who were not violent but also have problems or disagreements in close relationship with their partners.

Reports from previous studies suggested that anger contributes to offending behavior and behavioral difficulties in relation to prison environments. In one study, prisoners reported two episodes of anger per week during the initial stages of their incarceration. Results showed that the duration of incarceration was positive significantly contributed to anger experiences (Zamble & Porporino, 1990). This explained that if anger is a stable mood experience therefore the present feature of long-term imprisonment appeared to be robust (Bonta & Gendreau, 1990). The correctional institutions have numerous stressful elements in their environments and prisoners may endure stressors such as limited physical space, with high walls and with a long history of violence (Thomas & Jackson, 2003), minimal personal space (Lawrence & Andrews, 2004), perceived threats of violence (Cesaroni & Peterson-Badali, 2005), and lack of social support from significant others, family, and friends (Jiang, Fisher-Giorlando & Mo, 2005). Such conditions are very stressful at any time, and all can affect the individual's mental health. So, those prisoners who lack of coping strategies may resort to manage the situation in unhealthy ways (Harreveld et al., 2007) such as violence, aggression, and other defiant behaviors (Zamble & Porporino, 1990).

Treating individual with anger and aggression has been an increasing concern to health organizations, clinicians, and professional mental health. Many psychological intervention programs have been developed in offer the best practice in helping those people overcome their anger and aggression. For example, group counseling or group therapy have been found to be highly effective intervention programs when compared with individual counseling in encouraging recovery among male inmates (Ireland, 2004), sex offenders (DeAngelis, 1992), juvenile offenders (Claypoole, Moody & Peace, 2000; Leone, Quinn & Osher, 2002), and female inmates (Niregi, 2003). This group counseling or group therapy provides an outlet for prisoners to share their thoughts and feelings about their past criminal activities. The group may help the prisoners to learn, share or release their thoughts and feelings in an appropriate ways without hurting themselves or others (Winterowd, Morgan & Ferrell, 2001). For example, one of the group therapy program is anger management. (Edmondson & Conger, 1996). It has been implemented in western prison since the 1980's (Law, 1997). The goals of anger management program are to reduce violence, aggressive behavior, and criminal behavior following release. The majority of anger management has been conducted based on the cognitive behavioral approach (Hunter, 1993).

Evidence has shown that the group cognitive behavioral therapy has a greater effect on anger and aggression among prisoners. Findings also show a decrease in anger levels and aggression in experimental group after intervention among prisoners (Chan, 2009 ; Goldstein et al., 2012) and drug offenders (McLoughin, 2000) when compared with control group.

In contrast, Howells et al. (2005) conducted a study of male prisoners in the Correctional Centre Australia showed that there were no statistical differences between treatment group and control group. They found a low impact of anger management on male prisoners especially in terms of intensity and frequency of anger. However, the results revealed that the prisoners who participated in anger management program showed significantly greater improvement in anger knowledge than prisoners in the control group.

Feindler & Byers (2006) proposed that cognitive behavioral therapy be used to treat automatic anger reactions. Both group leaders and clients work together to create avoidance strategies for anticipated triggers and to encourage the purposeful employment of escape manoeuvres. A variety of exercises have been designed to gradually expose the clients to anger situations and condition the clients in responses to anger situations in order to decrease the client's physiological arousal and also to interrupt their habitual responses to anger situation.

Tafrate & Kassinove (2006) stated that clients will learn to associate a new competing response to the triggers of their anger and to pair those triggers with new responses such as relaxation, cognitive coping statements, assertiveness skills, and the ability to remain quiet and not to respond others (timeout). They believe that through the repeated exposure to their anger triggers, clients will experience habituation and extinction and with repeated rehearsals and practices, clients can bring these new responses from sessions to the ultimate real world. One example of the cognitive behavioral therapy is cognitive restructuring. This therapy is used to identify and challenge harmful thoughts. The clients then were asked to rationalize their thoughts concerning identified situations (Feindler & Byers, 2006).

Another example is assertive technique. This technique helps clients communicate appropriately. The clients are encouraged to be assertive rather than aggressive. Progressive muscle relaxation and breathing relaxation are also another common therapy to help the clients in controlling anger and managing anger.

Limited research has examined the effectiveness of cognitive behavioral therapy in Malaysia. Up until now, most studies focused on social and psychological factors of anger and aggression among children and adolescents who were living in residential child care under the Child Protection Act 2001 of Malaysia or court orders, college or university students, and community samples. Prisoners are very rarely studied, although there is evidence that the prevalence of anger and aggression has shown higher rates. Thus, this study aims to examine the effectiveness of cognitive behavioral therapy group counseling on anger and aggression among prisoners in Malaysia.

Methodology

Research Design
This study was tested using a quasi-experimental study designs with a pre-test and post-test control group design.

Participants
A total of 20 male adult prisoners participated in this study. The subjects were randomly assigned into experimental group (N=10) and control group (N=10). Participants were referred by correctional officers. All prisoners were involved with minor criminal offenses such as fighting, inflicted injuries, robbery, assault with a weapon, and similar offenses.

Instruments
Two instruments have been used in this study to measure anger and aggression. The State Trait Anger Expression Inventory-2 (STAXI 2; Spielberger, 1991) was used to measure anger. The STAXI-2 is a self-report measure which uses a 4-point rating scale to assess both the intensity of anger at a particular time and the frequency with which anger is experienced, expressed, and controlled. This instrument consists of six main scales namely, state anger, trait anger, anger expression-out, anger expression-in, anger control-out, and anger control-in. The Aggressive Questionnaire (AQ; Buss & Perry, 1992) was used to measure aggression.

Procedure
The experimental group received eight sessions of cognitive behavioral therapy group counseling. Each session runs for about 150 minutes, twice a week. Meanwhile the control group did not receive any treatment. The sessions of the treatment were constructed as follows:

Session 1 : Introduce and rapport
Session 2 : Overview of anger and aggression
Session 3 : Event and cues of anger and the aggression cycle
Session 4 : Anger Control Plan
Session 5 : Cognitive Restructuring
Session 6 : Assertiveness

Session 7: Model Resolution Conflict
Session 8 : Termination

Data Analysis

Analysis were carried out using *Statistical Package for Social Science* (SPSS) software version 18. Univariate Analysis of Covariance (ANCOVA) statistical analysis was used to analyse the data.

Results

Tables 1 and 2 shown below are the result of pre and post scores on anger main scales and aggression. Results showed that there were no differences between mean of pre-test for all anger main scales in two groups (table 1). However post-test in experimental group shows significant differences on state anger, trait anger and anger expression-out where the means were reduced from 39.20 to 28.70 (state anger), from 23.70 to 19.80 (trait anger) and from 17.40 to14.60 (anger expression-out). On the other hand, there were no significant differences on anger expression-in, anger control-out and anger control-in. Post-test control groups also did not show significant differences on anger main scales.

Results also showed that there is no difference between mean of pre-test for aggression between two groups (table 2). However, the mean of post-tests in experimental group shows that there is a significant difference, as the means were reduced from 85.40 to 68.50.

Table 1: Mean Pre and Post Scores on Anger Main Scales by Experimental and Control Group

Variables	Group	N	Mean		SD	
			Pre-test	Post-test	Pre-test	Post-test
State Anger	Experimental	10	39.20	28.70	8.32	6.68
	Control	10	37.90	41.10	5.30	8.06
Trait Anger	Experimental	10	23.70	19.80	2.79	3.39
	Control	10	23.50	25.90	2.92	7.81
Anger Expression-Out	Experimental	10	17.40	14.60	3.84	2.37
	Control	10	16.60	18.70	2.01	4.52
Anger Expression-In	Experimental	10	20.20	18.00	5.07	5.01
	Control	10	19.20	17.70	5.96	3.86
Anger Control-Out	Experimental	10	21.50	22.60	4.33	4.70
	Control	10	20.70	22.50	4.11	3.03
Anger Control-In	Experimental	10	22.10	22.60	5.04	4.90
	Control	10	22.40	22.70	4.01	4.08

Table 2: Mean Pre and Post Scores on Aggression by Experimental and Control Group

Variable	Group	N	Mean		SD	
			Pre-test	Post-test	Pre-test	Post-test
Aggression	Experimental	10	85.40	68.50	9.41	11.14
	Control	10	86.80	87.30	11.72	17.55

ANCOVA was used to examine the differences on anger scores between experimental group and control group. Results showed significant differences between pre-tests and post-tests between experimental group and control group on three anger main scales which the results showed state anger $F(1,17) = 14.940$, $p < .05$, trait anger $F(1,17) = 9.143$, $p < .05$ and anger expression-out $F(1,17) = 12.104$, $p < .05$ (table 3). It showed that the experimental group was effective to reduce state anger, trait anger, and anger expression-out comparing control group. However, there were no significant differences between the groups on anger expression-in scale $F(1,17) = .023$, $p > .05$, anger control-out scale $F(1,17) = .050$, $p > .05$ and anger control-in scale $F(1,17) = .003$, $p > .05$ (table 3).

Further analysis was then carried out to examine the differences on aggression scores. ANCOVA showed there were significant differences in pre-test and post-test between experimental group and control group on aggression. $F(1,17) = 8.670$, $p < .05$ (table 4). This shows that the treatment was effective at reducing aggression among intervention groups.

Table 3: ANCOVA Analysis of Anger Main Scales in Pre-Test and Post-Test in Experimental Group and Control Group

Variables	Source	Sum of Squares	df	Mean Square	F	P
State Anger	Group	806.873	1	806.873	14.940	.001
Trait Anger	Group	202.868	1	202.868	9.143	.008
Anger Expression-Out	Group	106.827	1	106.827	12.104	.003
Anger Expression-In	Group	.277	1	.277	.023	.880
Anger Control-Out	Group	.549	1	.549	.050	.826
Anger Control-In	Group	.037	1	.037	.003	.958

* p< .05; ** p< .01

Table 4: ANCOVA Analysis of Aggression in Pre-Test and Post-Test in Experimental Group and Control Group

Variable	Source	Sum of Squares	df	Mean Square	F	P
Aggression	Group	1603.787	1	1603.787	8.670	.009

** p< .01; * p< .05

Discussion and Conclusions

Our findings showed significant differences between the experimental group and control group on the anger main scales such as state anger, trait anger, anger expression-out, and also on aggression. These findings support the results of previous studies carried out by previous researchers which stated that group intervention especially in cognitive behavioral reduces anger and aggression among prisoners in correctional settings (Goldstein, 2012; Chan, 2009; Ireland, 2004). Our findings suggest that the cognitive behavioral group therapy counseling is an effective approach to reduce anger and aggression. This is in line with Pearson et al. (2002) findings when they discovered that 69 research studies on behavioral and cognitive behavioral programs. They found cognitive behavioral were more effective in reducing recidivism than behavioral therapy alone. Ireland (2004), for instance, examined the effectiveness of cognitive behavioral therapy for anger management group with young male offenders suggested that anger management in both observed angry behavior and self-reported angry behaviors were improved among treatment groups than that of control group.

However, in our study, results showed there were no significant differences on three anger main scales such as anger expression-in, anger control-out and anger control-in. We suggested that the prisoners still especially experience difficulty to control their anger. This perhaps may relate to lack of motivation and social support among prisoners. Our findings are consistent with other findings (see Howells et al., 2005; Heseltine, Howells & Day, 2010). We also suggested that perhaps group anger management contributed to a small effect to the treatment groups. Therefore, no significance differences between anger expression-in, anger control-out and control-in among the experimental and control groups of prisoners were found.

The non-significance result was due to poor motivation in prisoners. Readiness and motivation also proved to be a consistent predictor of improvement in treatment among prisoners (Howells et al., 2002). Prisoners who were motivated showed greater improvements on anger. Contrarily, those who were poorly motivated to do so showed fewer or no changes. Motivational problems on the part of the participants have been identified by most correctional staff as a major factor of determining the successful of the program sessions. Howells et al. (2005) added that besides low effectiveness on the intervention due to the poor motivation of the prisoners, the content of programs being too complex for the limited program time available, low program integrity, and limited opportunities to practice the skills learned in the program.

Another factor perhaps is the condition, physical and social environment in prison. Evidence suggested that setting for treatment and rehabilitation may affect the programme outcomes (Clarke, 1985). For example, the question must be raised whether the learning about anger control and expression that occur 24 hours a day in prison (culture abnormal) facilities or contradicts the lessons learned within therapeutic sessions.

Howells & Day (2003) have subsequently suggested that as a group there maybe a number of impediments that prevent violent offenders from successfully engaging in treatment programs. These include the relative complexity of cases, non therapeutic treatment settings, dysfunctional client inferences about the nature of their problems, the mandatory, coercive nature of treatment, treatment incompatible personal goals, gender and difficulties in therapy client alliance. The combined effects of these and other impediments to treatment readiness may mean that it is less likely that offenders will accept and respond to therapeutic effort (Ward et al., 2004).

This study also suffers from several limitations. First, our sample size is small; therefore, the findings are restricted to only male prisoners and generalizability is not permitted. Second, the intervention was done in a short time. The compaction and short time of intervention does not strengthen of learning behavior and emotion. Therefore, future studies should consider at least 15-20 sessions. Dowden, Blanchette & Serin (1999) suggested a minimum of 50 hours for general anger and 100 hours for extreme anger for the best results.

Although this study has several limitations, our findings have suggested that anger and aggression are a significant issue and require further exploration. We conclude that the cognitive behavioral group counseling is the best therapy to reduce anger, especially anger state, trait, and expression-out and also on aggression. This finding will help correctional officers apply the effective intervention program for prisoners in order to reduce anger and aggression.

References

Akbari, B., Abolghasemi, S., Taghizadeli, G., & Dastaran, A. (2012). Evaluate the effects of Anger Management Skills Training to Reduce Aggressive Male Prisoners. *J.Basic.Appl.Sci.Res , 2*(9), 9590- 9593.

Bonta, J., & Gendreau, P. (1990). Reexamining the cruel and unusual punishment of prison life. *Law and Human Behavior*, *14*(4), 347-372.

Buss, A., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology, 63*(3), 452-459.

Byrne, M. K., Byrne, S., Hillman, K., & Stanley, E. (2001). Offender risk and needs assessment: Some current issues and suggestions. *Behaviour Change*, *18*(01), 18-27.

Carver, C. S., & Harmon-Jones, E. (2009). Anger is an approach-related affect: evidence and implications. *Psychological bulletin*, *135*(2), 183-204.

Cesaroni, C., & Peterson-Badali, M. (2005). Young offenders in custody: Risk and adjustment. *Criminal Justice and Behavior, 32*(3), 251-277.

Chan, W. (2009). An assessment of the effectiveness of an eight session anger management program for minor criminal offenders in the community. (Doctoral dissertation). Faculty of Providence Theological Seminary. Available from Proquest Dissertations and Theses. (Accession No: NR68162).

Chida, Y., & Steptoe, A. (2009).The association of anger and hostility with future coronary heart disease: A meta analytic review of prospective evidence. *Journal of the American College of Cardiology, 53*, 936-946

Clarke, R.G.V. (1985). Jack Tizard Memorial Lecture: Delinquency, environment and intervention , *Journal of Child Psychology and Psychiatry*, *26*, 505–23.

Claypoole, S.D., Moody, E.E., & Peace, S.D. (2000). Moral dilemma discussions: An effective group intervention for juvenile offenders. *Journal for specialists In Group Work, 25*, 394-411.

Coon, D., & Mitterer, J.O. (2010). *Introduction to Psychology: Gateways to Mind and Behavior.* USA: Wadsworth Cengage Learning

Corapcioglu, A., & Erdogan, S. (2004). A cross-sectional study on expression of anger and factors associated with criminal recidivism in prisoners with prior offences. *Forensic science international*, *140*(2), 167-174.

DeAngelis, T.(1992).Best Psychological treatment for many men: Group therapy. APA *Monitor*, *23* , 31.

Deffenbacher, J. L. (2011) .Cognitive-Behavioral Conceptualization and Treatment of Anger. *Cognitive and behavioural practice, 18*, 212-221.

Del Vecchio, T., & O'Leary, K. D. (2004). The effectiveness of anger treatments for specific anger problems: A meta-analytic review. *Clinical Psychology Review, 24*, 15–34.

DiGiuseppe, R., & Tafrate, R. (2007). *Understanding anger disorders*. New York, NY: Oxford University Press.

Dowden, C., Blanchette, K., & Serin, R. (1999). Anger management programming for federal male inmates: An effective intervention (Research Report R82e). Ottawa: Correctional Service Canada.

Edmondson, C., & Conger, J. (1996). A review of treatment efficacy for individuals with anger problems: conceptual, assessment and methodological issues. *Clinical Psychology Review, 16,* 251–275.

Feindler, E.L., & Byers, A. (2006).Multiple perspectives on the conceptualization and treatment of anger-related disorders. In Feindler, E.L.(Ed.), *Anger-related disorders:A practitioner's guide to comparative treatments* (p.p 303-320). New York:Springer.

Goldstein, N.E.S., Serico, J.M., Romaine, C.L.R., Zelechoski, A.D., Kalbeitzer, R., Kemp,K., & Christy Lane, C. (2012). Development of the Juvenile Justice Anger Management Treatment for Girls. *Cognitive and Behavioral Practice*, *20*(2), 171-188.

Harreveld, F., Pligt, J., Claassen, L., & Dijk, W. (2007). Inmate emotional coping and psychological and physical well-being. The use of crying over spilled milk. *Criminal Justice and Behavior, 34*, 697-708.

Heseltine, K., Howells, K., & Day, A. (2010). Brief anger intervention with offenders may be ineffective: A replication and extension. *Behavior research and therapy, 48,* 246-250.

Howells, K., Day,A., Bubner,S., Jauncey,S., Williamson, P., Parker,A., & Heseltine, K. (2002). Anger Management and Violence Prevention: Improving Effectiveness. *Trends and Issues in crime and criminal justice.* Australian Institute of Criminology, *227,* 1-6.

Howells, K., & Day, A. (2003). Readiness for anger management: Clinical and theoretical issues. *Clinical Psychology Review, 23,* 319-337.

Howells, K., Day, A., Williamson, P., Bubner, S., Jauncey, S., Parker, A., & Heseltine, K. (2005). Brief anger management programs with offenders: outcomes and predictors of change. *Journal of Forensic Psychiatry and Psychology, 16,* 296–311.

Hunter, D. (1993). Anger Management in the Prison: An Evaluation. *Research on Offender Programming Issues, 5*, 3–5.

Ireland, J.L . (2004). Anger management therapy with young male offenders: an evaluation of treatment outcome. *Aggressive Behavior, 30*(2), 174-185.

Jiang, S., Fisher-Giorlando, M., & Mo, L. (2005). Social Support and inmate rule violations: A multilevel analysis. *American Journal of Criminal Justice, 30*(1), 71-86.

Kassinove, H., & Sukhodolsky, D.G. (1995). Anger Disorders: basic science and practice issues. In H. Kassinove (Ed.). *Anger Disorders: Definition. diagnosis and treatment* (pp. 1-26). Washington, DC: Taylor & Francis.

Kassinove, H., & Tafrate, R. (2006). Anger-related disorder: Basic issues, models and diagnostic considerations. In E. Feindler (Ed.), *Anger-related disorders: A practitioner's guide to comparative treatments* (pp. 1-27). New York: Springer Publishing.

Kellaway, J.A (2009). Further exploring negative anger consequences. (Doctoral Disertation). Department of Psychology,Colorado State University. Available from ProQuest Dissertations and Theses database. (UMI No: 3400996).

Koellhoffer,T., Murphy M.M., & Banas, S.L. (2008). *Dealing with frustration.* USA: *Infobase Publishing.*

Kroner, D.G., & Reddon, J. R. (1995). Anger and psychopathology in prison inmates. *Personality & Individual Differences, 18,* 783-788.

Law, K. (1997). Further evaluation of anger-management courses at HMP Wakefield: An examination of behavioural change. Inside Psychology. *The Journal of Prison Service Psychology, 3*, 91–95.

Lawrence, C., & Andrews, K. (2004). The influence of perceived prison crowding on male inmates' perception of aggressive events. *Aggressive Behavior*, *30*, 273-283.

Leone, P.E., Quinn, M., & Osher, D. (2002). *Collaboration in the juvenile justice system and youth-serving agencies: Improving prevention, providing more efficient services and reducing recidivism for youth with disabilities.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Lochman, J.E., Barry, T.D., & Pardini, D.A. (2003). Anger control training for aggressive youth. In A.E. Kazdin & J.R. Weisz (Eds.), *Evidence–based psychotherapies for children and adolescents* (pp.263-281). New York: Guilford Press.

Lochman, J.E., Barry, T., Powell, N., & Young, L. (2010). Anger and aggression. In *Practitioner's guide to empirically based measures of social skills* (pp. 155-166). New York: Springer.

Marby, J.B., & Kiecolt, K.J. (2005). Anger in black and white.: Race, alienation and anger. *Journal of health and Social Behaviour, 46,* 85-101.

McLoughlin, I.P. (2000). Anger management for seniors with substance abuse problems. (Doctoral Dissertation).Wright Institute Graduate School of Psychology. Available from ProQuest Dissertations and Theses database. (UMI No:9965290).

Mills, J. F., Kroner, D. G., & Forth, A. E. (1998). Novaco Anger Scale: Rehabilitating and validating within an adult criminal sample. *Psychological Assessment, 5*, 237–248.

Murrell, A.R., Christoff , K.A., & Henning, K.R.(2007). Characteristics of Domestic Violence Offenders: Associations with Childhood Exposure to Violence. *J Fam Viol, 22*, 523–532.

Niregi, K. (2003). Group counseling for young female prisoners who violated the stimulant control law: the effect of the counselling examined with STAI. *Japanese Journal of Criminal Psychology, 41*(1), 39-55.

Norlander, B., & Eckhardt, C. (2005). Anger, hostility, and male perpetrators of intimate partner violence: A meta-analytic review. *Clinical Psychology Review, 25*, 119-152.

Novaco, R. (1997). Remediating anger and aggression with violent offenders. *Legal and Criminological Psychology, 2*, 77–88.

Orloff, J. (2009). *Emotional Freedom*. USA: Harmony Books.
Pearson, F.S., Lipton, D.S., Cleland, C.M., & Yee, D.S. (2002).The effects behavioral/cognitive-behavioral programs on recidivism. *Crime and Deliquency*, *48*(3), 476-496.

Pincus, J.H . (2001). *Base Instincts: What Makes Killers Kill*. New York*:* NY Norton & Company, Inc.

Plutchik, R. (2003). *Emotion and life*. DC: American Psychological Association (APA).

Slep, A. M.S., & O'Leary, S. G. (2007). Multivariate models of mothers' and fathers' aggression toward their children. *Journal of Consulting and Clinical Psychology, 75*(5) 739-751.

Spielberger, C. D. (1991). *State-Trait Anger Expression Inventory*. Orlando, FL: Psychological Assessment Resources.

Stith, S. M., Liu, T., Davies, L. C., Boykin, E. L., Alder, M. C., Harris, J.M., Som, A., McPherson, M., & Dees, J.E.M.E.G.(2009). Risk factors in child maltreatment: A meta-analytic review of the literature. *Aggression and Violent Behavior, 14*(1), 13-29.

Suinn, R. (2001). The terrible twos-Anger and anxiety: Hazardous to your health. *American Psychologist, 56,* 27-36.

Tafrate, R., Kassinove, H., & Dundin, L. (2002). Anger episodes in high and low-trait-anger community adults. *Journal of Clinical Psychology , 58*, 1573-1590.

Tafrate, R., & Kassinove, H. (2006). Anger management for adults: A menu-driven cognitive-behavioral approach to the treatment of anger disorders. In E.L Feindler (Ed.). *Anger-related disorders: A practitioner's guide to comparative treatments.* New York, NY : Springer Publishing.

Thomas, M., & Jackson, S. (2003). Cognitive -Skills group work. In G. Towl (Ed.), *Psychology in prisons.* British Psychological Society. Oxford: Blackwell Publishing Ltd.

Udrow, W. J. (2008). Evaluation of Cognitive behaviour Anger Management Groups and Levels of Clinical Anger On The Recovery Process in A Substance Abuse/ Dependent Population. (Doctoral Dissertation). Faculty of the Adler School of Professional Psychology. Available from ProQuest Dissertations and Theses database. (UMI No:3504755).

Vannoy, S.D., & Hoyt, W.T. (2004). Evaluation of an anger therapy intervention for incarcerated adult males. *Journal of offender rehabilitation, 39*(2), 39-57.

Ward, T., Day, A., Howells, K., & Birgden. A. (2004). The multifactor offender readiness model. *Aggression and Violent Behavior, 9,* 645-673.

Winterowd, C.L., Morgan, R.D., & Ferrell, S.W. (2001). Principle components analysis of important goals for group work with male inmates. *Journal for specialist in group work, 26,* 406-417.

Zamble, E., & Porporino, F. (1990). Coping, imprisonment, and rehabilitation: Some data and their implications. *Criminal Justice and Behavior, 17,* 53–70.

Relationship between Social Self-Efficacy and Learning Activities with Friends for Adjustment to and a Sense of Fulfillment at the University

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Abstract

This study examined the relationship between social self-efficacy and learning activities with friends for adjustment to university and a sense of fulfillment in university life. A growing body of research has recognized and established that peers contribute to students' adjustment to school and their academic motivation (Berndt, 1999). However, the reason why good peer relations positively predict adjustment to school or academic achievement has not yet been thoroughly examined, especially for university students. A questionnaire was administered to 220 university students in Japan. Participants responded to four scales measuring their social self-efficacy, learning activities with friends, adjustment to university, and sense of fulfillment in university life. A cluster analysis was conducted to integrate social self-efficacy and learning activities with friends. The cluster analysis provides a comprehensive profile of students with distinct variation in adjustment to university and sense of fulfillment in university life. As predicted, results indicated that students who were categorized into high social self-efficacy with many learning activities with friends had better opportunities to adjust to university and feel a sense of fulfillment in university life. In contrast, students with low social self-efficacy and many learning support exchanges with friends experience both a lack of adjustment to university and a lower sense of fulfillment in university life.

Key words: peer relations, learning activities with friends, university adjustment

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Introduction

A growing body of research has recognized that peers contribute to students' successful adjustment to school and also to their academic motivation (Berndt, 1999; Fass, 2002). Okada (2008) focused on learning activities with friends among junior high school students and observed that reciprocal learning predicted their satisfaction with both friendship and learning. Furthermore, help-seeking learning behaviors from friends in academic settings was related to friendship satisfaction, and help-giving learning behaviors for friends was related to their satisfaction with learning.

However, the reason for good peer relations positively predicting adjustment to school or academic achievement has not yet been thoroughly examined, especially for university students.

This study examined to what extent the relationship between social self-efficacy, which was defined as confidence in one's ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships in social life and career activities (Anderson & Betz, 2001), and learning activities with friends predicted successful adjustment to and a sense of fulfillment in university life.

On the basis of prior research with school age students, it was hypothesized that high social-efficacy and more learning activities with friends would indicate a higher score of successful university adjustment and sense of fulfillment.

Method

Participants

The participants were 220 Japanese university students from two private universities (M age=20.02 year, SD=1.84) .

Measurements

Sense of fulfillment. － This 11-item section was adopted from Ohno's (1984) study. Originally, this scale was divided into the following four subscales; fulfillment sentiment vs. boredom-emptiness, independence and self-reliance vs. *amae* and lack of self-reliance, solidarity vs. isolation, and trust and time-perspective vs. mistrust and time-diffusion. However, in this study, only fulfillment sentiment vs. boredom-emptiness subscale was used. When responding to the scale, participants were asked to think about their university life. A 5-point rating scale was used for ratings, with anchors of 1: Not at all and 5: Very strongly.

Social self-efficacy. －A total of 40 items were adopted from Matsushima and Shiomi (2003). This scale was divided into the following three subscales (Matsushima, 2014) ; trust in friends, self-confidence in personal relationships, and belief in the power of friendship. When responding to the scale, participants were asked to think about their friendships during university life. A 5-point rating scale was used for ratings, with anchors of 1: Not at all and 5: Very strongly.

Learning activities with friends. ― This 31-item section was adopted from Matsushima's (2014) study. Originally, this scale was divided into the following four subscales; support exchanges in their assignments and reports, support exchanges in class and exam preparation, emotional support, and cooperation with club members in exam and report preparation. In this study, three scales were used except for cooperation with club members in exam and report preparation. When responding to the scale, participants were asked to think about their academic activities with friends at the university. A 5-point rating scale was used for ratings, with anchors of 1: Not at all and 5: Very strongly.

University adjustment. ― This 29-item section was adopted from Okubo and Aoyagi (2003) with four scales; sense of comfort, sense of being trusted and accepted, existence of interest and purpose of studying, and no sense of rejection. When responding to the scale, participants were asked to think about their university lives. A 5-point rating scale was used for ratings, with anchors of 1: Not at all and 5: Very strongly.

Analysis

In the first procedure, a cluster analysis was conducted to integrate social self-efficacy and learning activities with friends. In the second procedure, a one-way ANOVA was conducted on the four factor scores of the subjective adjustment to school scale and the sense of fulfillment scale to examine the differences between the four clusters.

Results

Table 1 shows the means, standard deviations, and Cronbach's α for all the scales and Table 2 shows the example items of each factor.

Table 1 Mean score and Cronbach' α of each factor

Table 2		M	SD	α
	1.Trust in friends	3.22	0.68	.895
	2.Self-confidence in personal relationships	3.05	0.77	.871
	3.Belief in the power of friendship	3.57	0.66	.656
	4.Support exchanges in their assignments and reports	2.51	0.88	.887
	5.Support exchanges in class and exam preparation	3.56	0.80	.874
	6.Emotional support	3.15	0.88	.743
	7.Sense of comfort	3.29	0.72	.888
	8.Sense of being trusted and accepted	3.09	0.76	.860
	9.Existence of Interest and purpose of studying	3.50	0.76	.801
	10.No sense of rejection	3.25	0.75	.799

Examples of items

Name of Subscale	Examples of Items
1.Trust in friends	I think my friends understand me whatever I say. I believe my friends understand me regardless of what I say.
2.Self-confidence in personal relationships	I can introduce myself well to strangers at the first meeting. I can talk with anybody easily.
3.Belief in the power of friendship	I think it is important for us to accomplish something with our companions. We can do anything if we cooperate.
4.Support exchanges in their assignments and reports	I have my friends' help for my report and homework. I help my friends with their report and homework.
5.Support exchanges in class and exam preparation	I have my friends teach me the scope of the exam. I check the scope and contents of the exam with my friends before exam.
6.Emotional support	My friends and I motivate each other to learn. My friends and I support each other to motivate our learning.
7.Sense of comfort	I can fit in with this environment. I have good time with people.
8.Sense of being trusted and accepted	I can feel I was trusted by people. I can feel I am needed.
9.Existence of Interest and purpose of studying	I have something that I am really into. I can do what I want to do.
10.No sense of rejection	I feel people don't recognize the existence of me. (*) I feel people are cold to me. (*)
11.Sense of fulfillment	I live a life worth living. I live boring daily life. (*)

Cluster Analysis

A hierarchical cluster analysis using the Ward method was conducted to form participant groups based on the characteristics of social self-efficacy and learning activities with friends. As a result of this analysis, four clusters were produced (Figure 1). A one-way ANOVA was conducted to determine which classifying variables were significantly different among the clusters. There was a significant difference between clusters for each of the six variables of social self-efficacy and learning activities with friends (Figure 1). Tukey's honest significant difference (HSD) procedure was conducted to determine where the differences lie. The characteristics of four clusters are shown in Table 3.
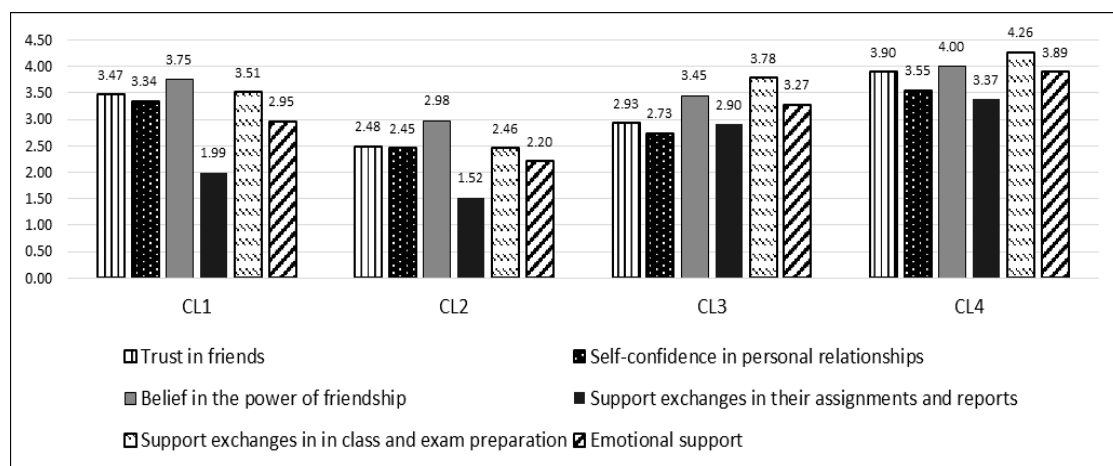
Figure 1   Mean score of social self-efficacy and learning activities with friends among four clusters

Table 3 Characteristics of four clusters

Cluster number	Characteristics of each cluster
CL1	high social self-efficacy with moderate learning activities friends
CL2	low social self-efficacy with low learning activities with friends
CL3	low social self-efficacy with high learning support exchanges with friends
CL4	high social self-efficacy with high learning activities with friends

Difference between by the clusters

A one-way ANOVA was conducted on the five scores of the subjective adjustment to school scale and the sense of fulfillment scores to examine the difference between the four clusters. The results of the one-way ANOVA are shown in Table 4 and Figure 2. All variables of the five scales were significant. The results of the post hoc comparisons using Tukey's HSD are also shown in Table 4.

Table 4 Means and SDs of the sense of fulfillment and school adjustment by the clusters

	CL1 (n=56)		CL2 (n=43)		CL3 (n=59)		CL4 (n=51)		F-value	Tukey's	effect size
	M	SD	M	SD	M	SD	M	SD		multiple comparison	η^2
Sense of fulfillment	3.37	0.67	2.97	0.79	3.07	0.71	3.51	0.76	5.75**	4,1>2 4>3	0.08
Sense of comfort	3.43	0.59	2.61	0.59	3.06	0.49	3.95	0.52	50.94**	4>1>3>2	0.44
Sense of being trusted and accepted	3.24	0.63	2.49	0.58	2.83	0.53	3.67	0.72	32.55**	4>1>3>2	0.33
Existence of interest and purpose of studying	3.69	0.67	3.21	0.82	3.22	0.64	3.87	0.67	11.62**	4,1>3,2	0.15
No sense of rejection	3.50	0.68	2.93	0.59	2.99	0.69	3.58	0.72	12.34**	4,1>3,2	0.16
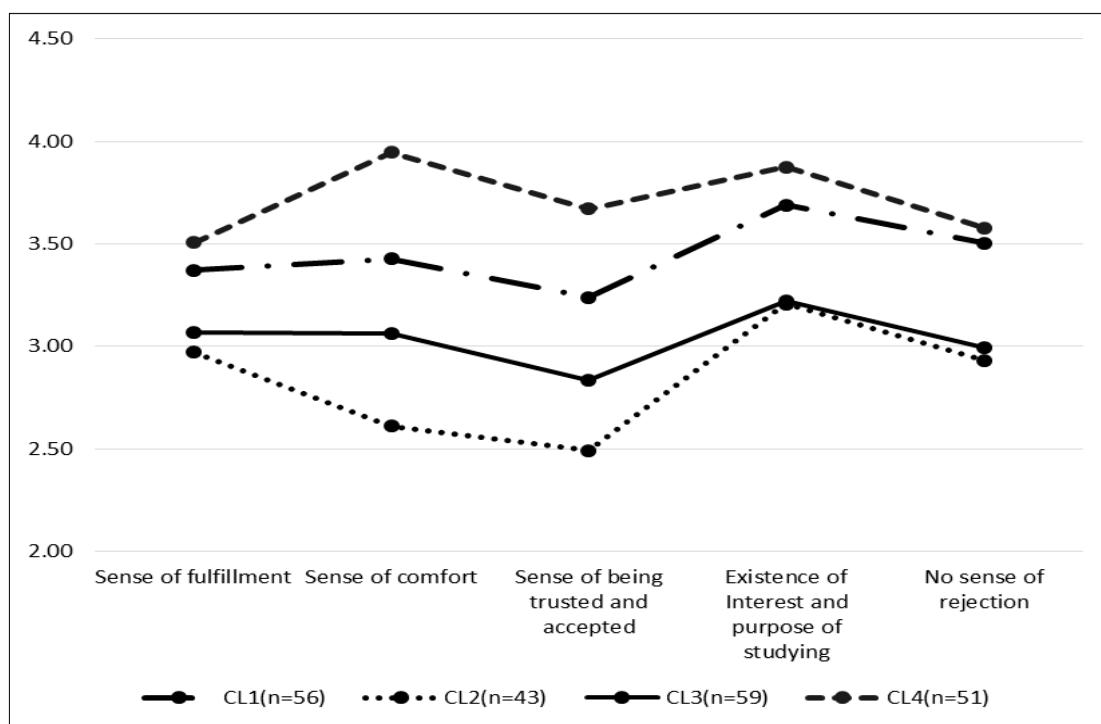
Figure 2 Mean scores of the sense of fulfillment and school adjustment by the clusters

Discussion

As predicted, results indicated that students who were categorized into the high social self-efficacy with many learning activities with friends cluster had better opportunities to adjust and feel a sense of fulfillment in university life. Alternatively, students in the low social self-efficacy and low learning support exchanges with friends cluster experienced both a lack of adjustment to and a lower sense of fulfillment in university life.

As for CL1 and CL3, the scores of the support exchanges regarding assignments and reports and support exchanges in class and exam preparation for CL3 were significantly higher than these for CL1. On the other hand, CL1 which had higher scores in social self-efficacy showed higher scores in a sense of fulfillment and adjustment to school. Therefore, social-efficacy is considered as a significant factor for university adjustment and a sense of fulfillment in university.

Overall, the results indicate that students who have high social self-efficacy have opportunities to learn with friends and support their friends in learning activities, which in turn predicts successful adjustment to and a sense of fulfillment in university life. Thus, we suggest that learning behaviors with friends contribute to better university adjustment, and that the impact of friends on university adjustment is based on their support and encouragement of each other in their learning.

References

Anderson, S, L., & Betz, N.E. (2001). Sources of social self-efficacy expectations: Their measurement and relation to career development. *Journal of Vocational Behavior*, **58**, 98-117.

Berndt, T. J. (1999). Friends' influence on students' adjustment to school. *Educational Psychologist*, **34**, 15-28.

Fass, M.E. , & Tubman, J.G. (2002). The influence of parental and peer attachment on college students' academic achievement. *Psychology in the Schools*, **39**, 561-573.

Matsushima, R., & Shiomi, K. (2003).Developing a scale of self-efficacy in personal relationships for adolescents. *Psychological Reports*, **92**, 177-184.

Matsushima, R. (2014). Correlations among Peer Relations, Learning Activities with Friends, and University Adjustment. *The Asian Conference on Psychology and the Behavioral Sciences 2014 Official Conference Proceedings*, 112-118.

Matsushima, R. (2014). The relationship between situational change and selectiveness in friendships for adjustment to the university. *International Journal of Adolescence and Youth*, DOI: 10.1080/02673843.2013.844179

Ohno, H. (1984). The fulfillment sentiment in contemporary adolescence- an examination of the sentiment model for the contemporary Japanese adolescence-. *The Japanese Journal of Educational Psychology*, **32**, 100-109.

Okada, R. (2008). Autonomous motivation in learning activities with friends. *The Japanese Journal of Educational Psychology*, **5**6, 14-22.

Okubo, T. & Aoyagi, H. (2003). Development of a subjective adjustment scale for university students according to the person-environment fit model. *The Japanese Journal of Personality*, **12**, 38-39.

Does Sociality Become Virtual or Natural in Social Network Services? The Example of Facebook

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Introduction

Sociality means a number of individuals living and interacting together, which can lead to complicated social relationships and structure. In recent years, Social network services (SNSs) and online communities have been growing quickly. SNSs offer a variety of social behaviors that simultaneously expand and challenge our conventional understanding of sociability. Specifically, SNSs provide flexible and personalized modes of sociability, which allow individuals to sustain strong or weak ties through a variety of online tools and strategies. Social networking sites such as MySpace, LinkedIn and Facebook have become hugely popular in the last few years. These sites can be oriented towards work-related contexts (e.g., LinkedIn.com), romantic relationship initiation (the original goal of Friendster.com), connecting those with shared interests such as music or politics (e.g., MySpace.com), or the college student population (the original incarnation of Facebook.com)

In recent years there has been a significant shift in the nature of social interactions from face-to-face to web-based social communication. Social network sites such as Facebook have affected social relationships in ways that researchers are only beginning to understand. Social networking sites typically provide users with a profile space, facilities for uploading content (e.g. photos, music), messaging in various forms and the ability to make connections to other people. These connections (or 'friends') are the core functionality of a social network site although most also provide opportunities for communication, the forming of groups, hosting of content and small applications.

An overview of Facebook

Facebook now has more than 1.1 billion active members worldwide, 800 million of which access the site via smartphones, and user numbers have been growing at an annual rate of 20 percent. The site is tightly integrated into the daily media practices of its users: The typical user spends about 20 minutes a day on the site, and two-thirds of users log in at least once a day (Cassidy, 2006; Needham & Company, 2007).

According to Facebook data released earlier this year, the number of active Facebook users in Taiwan has reached 14 million per month, or about a 60 percent penetration rate, while the number of daily users has hit 10 million. That figure represents the highest penetration rate in Asia, edging out Hong Kong — with about 58 percent — for the top spot. Facebook's overall penetration rate in the region at the end of last year was 6.5 percent.

number of monthly active Facebook users worldwide from 2011 to 2014(in millions)

■ number of monthly active Facebook users worldwide from 2011 to 2014(in millions)
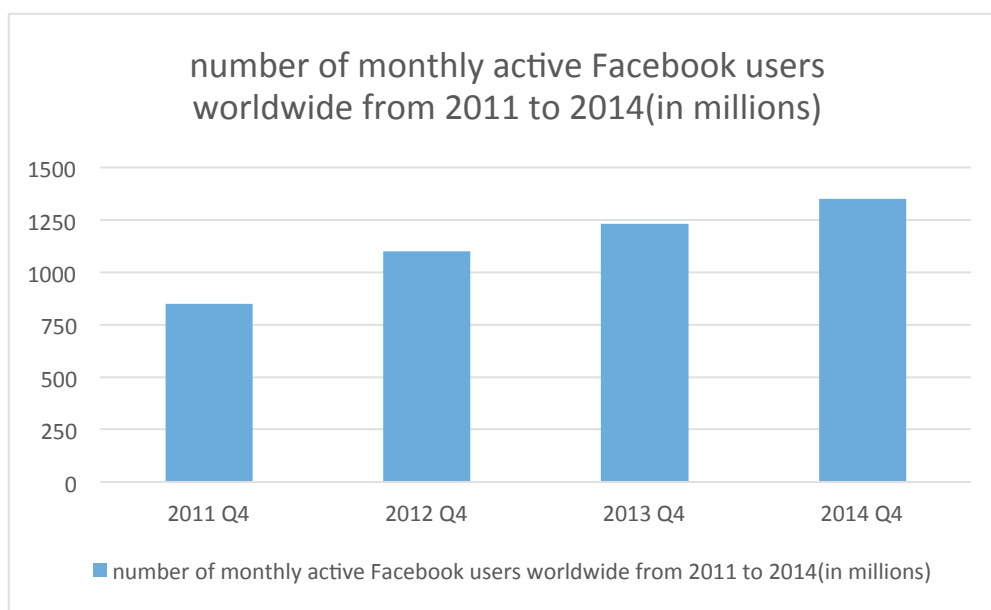
Source: Facebook statistics 2015

Much of the existing academic research on Facebook has focused on identity presentation and privacy concerns (e.g., Gross & Acquisti, 2005; Stutzman, 2006). Other recent Facebook research examines student perceptions of instructor presence and self-disclosure (Hewitt & Forte, 2006; Mazer, Murphy, & Simonds, 2007), temporal patterns of use (Golder, Wilkinson, & Huberman, 2007), and the relationship between profile structure and friendship articulation (Lampe, Ellison, & Steinfield, 2007).

Literature review

Sociality:

author	paper	definition
TINA WEY, DANIEL T. BLUMSTEIN, WEIWEI SHEN&FERENC JORDA´N (2008)	Social network analysis of animal behaviour: a promising tool for the study of sociality	Sociality implies a number of individuals living and/or interacting together, which can lead to complex social relationships and structure.
Alan Page Fiske(1992)	The four elementary forms of sociality: Framework for a united theory of social relations	Four elementary forms of sociality: in *communal sharing*, people treat all members of a category as equivalent; in *authority ranking*, people attend to their positions in a liner ordering; in *equality matching*, people keep track of the imbalances among them; in *market pricing*, people orient to ratio values.
Alan J. Fridlund(1991)	Sociality of Solitary Smiling: Potentiation by an Implicit Audience	That sociality could mediate both public and private faces would be compatible with more traditional role and impression-management theories of behavior, which hold that expressions are a means "to control images that are projected in real or imagined social interactions" (Schlenker, 1980, p. 6; see also Baldwin & Holmes, 1987; Greenwald & Breckler, 1985; Schlenker, 1985; Schlenker & Weigold, 1989; Snyder, 1979).

Strong ties (bonding social capital):

Social capital has been linked to a variety of positive social outcomes, such as better public health, lower crime rates, and more efficient financial markets (Adler & Kwon, 2002). Social capital may also be used for negative purposes, but in general social capital is seen as a positive effect of interaction among participants in a social network (Helliwell & Putnam, 2004).

In Putnam's (2000) view, bonding social capital reflects strong ties with family and close friends, who might be in a position to provide emotional support or access to scarce resources. Bonding social capital is found between individuals in tightly-knit, emotionally close relationships, such as family and close friends. When social capital declines, a community experiences increased social disorder, reduced participation in civic activities, and potentially more distrust among community members. Greater social capital increases commitment to a community and the ability to mobilize collective actions, among other benefits. Social capital may also be used for negative purposes, but in general social capital is seen as a positive effect of interaction among participants in a social network (Helliwell & Putnam, 2004).

Weak ties (bridging social capital):

Access to individuals outside one's close circle provides access to non-redundant information, resulting in benefits such as employment connections (Granovetter, 1973). Moreover, social capital researchers have found that various forms of social capital, including ties with friends and neighbors, are related to indices of psychological well-being, such as self-esteem and satisfaction with life (Bargh & McKenna, 2004; Helliwell & Putnam, 2004).

Putnam (2000) distinguishes between bridging and bonding social capital. The former is linked to what network researchers refer to as ''weak ties,'' which are loose connections between individuals who may provide useful information or new perspectives for one another but typically not emotional support (Granovetter, 1982).

Social capital and Internet:

The Internet has been linked both to increases and decreases in social capital. Nie (2001), for example, argued that Internet use detracts from face-to-face time with others, which might diminish an individual's social capital.

Recently, researchers have emphasized the importance of Internet-based linkages for the formation of weak ties, which serve as the foundation of bridging social capital.

Because online relationships may be supported by technologies like distribution lists, photo directories, and search capabilities (Resnick, 2001), it is possible that new forms of social capital and relationship building will occur in online social network sites. Donath and boyd (2004) hypothesize that SNSs could greatly increase the weak ties one could form and maintain, because the technology is well-suited to maintaining such ties cheaply and easily.

Based on this prior work, I propose the following hypothesis:

H1. Intensity of Facebook use will be positively associated with individuals' perceived bridging social capital (weak ties).

It is clear that the Internet facilitates new connections, in that it provides people with an alternative way to connect with others who share their interests or relational goals (Ellison, Heino, & Gibbs, 2006; Horrigan, 2002; Parks & Floyd, 1996). However, it is unclear how social capital formation occurs when online and offline connections are closely coupled, as with Facebook. Williams (2006) argues that although researchers have examined potential losses of social capital in offline communities due to increased Internet use, they have not adequately explored online gains that might compensate for this. We thus propose a second hypothesis on the relationship between Facebook use and close ties:

H2. Intensity of Facebook use will be positively associated with individuals' perceived bonding social capital(strong ties).

Some research has shown, for example, that the Internet might help individuals with low psychological well-being due to few ties to friends and neighbors (Bargh & McKenna, 2004). Some forms of computer-mediated communication can lower barriers to interaction and encourage more self-disclosure (Bargh, McKenna, & Fitzsimons, 2002; Tidwell & Walther, 2002); hence, these tools may enable connections and interactions that would not otherwise occur. For this reason, we explore whether the relationship between Facebook use and social capital is different for individuals with varying degrees of self-esteem (Rosenberg, 1989) and satisfaction with life (Diener, Suh, & Oishi, 1997; Pavot & Diener, 1993), two well-known and validated measures of subjective well-being. This leads to the two following pairs of hypotheses:

H3. The degree of a person's satisfaction with life will be positively associated with individual's intensity of facebook use.

H4. The degree of a person's self-esteem will be positively associated with individual's intensity of facebook use.

Method

The survey was hosted on bbs NCHU , a social network site, and was fielded in March 2015.

Data will be collected among Facebook users using an online survey. Subsequent statistical analyses will be conducted to test whether SNSs-based sociality is virtual or natural.

References

Alan J. Fridlund(1991) Sociality of Solitary Smiling:Potentiation by an Implicit Audience

Alan Page Fiske(1992) The four elementary forms of sociality: Framework for a united theory of social relations

Adler, P., & Kwon, S. (2002). Social capital: Prospects for a new concept. Academy of Management Review, 27(1), 17–40.

Bargh, J., & McKenna, K. (2004). The Internet and social life. Annual Review of Psychology, 55(1), 573–590.

Cassidy, J. (2006, May 15). Me media. The New Yorker, 50–59.

Donath, J., & boyd, d. (2004). Public displays of connection. BT Technology Journal, 22(4), 71.

Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation processes in the online dating environment. Journal of Computer-Mediated Communication, 11(2), article 2. Retrieved June 30, 2007 from http://jcmc.indiana.edu/ vol11/issue2/ellison.html

Granovetter, M. S. (1973). The strength of weak ties. American Journal of Sociology, 78(6),1360–1380.

Granovetter, M. S. (1982). The strength of weak ties: A network theory revisited. In P.V.

Mardsen & N. Lin (Eds.), Social Structure and Network Analysis (pp. 105–130). Thousand Oaks, CA: Sage Publications.

Gross, R., & Acquisti, A. (2005, November). Information revelation and privacy in online social networks. Paper presented at the WPES'05, Alexandria, Virginia.

Golder, S. A., Wilkinson, D., & Huberman, B. A. (2007, June). Rhythms of social interaction: Messaging within a massive online network. In C. Steinfield, B. Pentland, M. Ackerman, & N. Contractor (Eds.), Communities and Technologies 2007: Proceedings of the Third International Conference on Communities and Technologies (pp. 41–66). London: Springer.

Hewitt, A., & Forte, A. (2006, November). Crossing boundaries: Identity management and student/faculty relationships on the Facebook. Paper presented at CSCW, Banff, Alberta,Canada.

Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. Philosophical Transactions of the Royal Society, 359(1449), 1435–1446.

Lampe, C., Ellison, N., & Steinfield, C. (2007). A familiar Face(book): Profile elements as signals in an online social network. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 435–444). New York: ACM Press.

Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. Psychological Assessment, 5(2), 164–172.

Resnick, P. (2001). Beyond bowling together: Sociotechnical capital. In J. Carroll (Ed.), HCI in the New Millennium (pp. 247–272). Boston, MA: Addison-Wesley.

Stutzman, F. (2006, April). An evaluation of identity-sharing behavior in social network communities. Paper presented at the iDMAa and IMS Code Conference, Oxford, Ohio.

Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. Human Communication Research, 28(3), 317–348.

WEIWEI SHEN&FERENC JORDA´N(2008) TINA WEY, DANIEL T. BLUMSTEIN, Social network analysis of animal behaviour: a promising tool for the study of sociality

The Capacity of Perceived Coping Self-Efficacy in Adolescents with Repaired Cleft Lip and Cleft Palate

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Abstract

Objectives: The study develops Coping Self-Efficacy Assessment and compares scores between difference gender and cleft type in Thai adolescents with cleft lip and palate.

Methods: The in-depth interview collects from 18 selective adolescents with repaired cleft lip and palate. Qualitative data is constructed items of Coping Self-Efficacy. Five experts examine content validity and questionnaire collects from 64 bilateral clefts and 157 unilateral clefts, age range 11-18 years. Participants recruited from four orthodontic clinics. Cronbach's Alpha coefficient measure internal consistency and Confirmatory Factor Analysis show construct validity. Independent sample t-test is used for statistical significant differences. The study is approved by the Human Research Ethics Committee of University.

Results: Stressful situations can category into 4 domains: physical symptoms, functional limitations, unpleasant emotions, and social exclusion. This questionnaire consists of 16 items and adolescents rate their degrees of confidence from 0 "Cannot do at all" to 10 "Highly certain can do". Three factors of their coping strategies under 4 stress domains are: Problem-focused coping factor (5 items, α= .68); Emotion-focused coping factor (6 items, α= .79); and Getting support from others factor (5 items, α= .76). Overall score has excellent reliability coefficient (α= .89). The goodness-of-fit indicate that the measurement model fit the data well. Internal consistency and reliability are strong for all factors. Score do not differ significantly between difference gender (t=0.188, p>.05) and cleft type (t=0.634, p>.05). **Conclusions:** Coping Self-efficacy Assessment is a very good validity and reliability psychometric instrument. Participants both gender and cleft type have quite highly confident to cope their stress.

Keywords: adolescents, cleft, psychometric

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Introduction

Cleft lip and cleft palate (CLP) is clearly unknown cause but related to genetic and risk environment on pregnancy and mostly non-syndromic CLPs. Its prevalence in Thailand is increasingly from 1 to 2 per 1,000 newborns over the past decade (Patjanasoontorn et al., 2010). These defects typically require surgical procedures after childbirth and can cause severe morbidity and complications (Skari et al. 2006). The risk of mortality in people with cleft lip and palate was attributable to all major causes of death (Christensen et al., 2004). Children with repaired CLP are often presumed to have normal health and survival in adulthood. Although there are studies reporting the psychological and social impacts of craniofacial deformity, hearing and speech problem, and facial appearance (Johnsen, 2005) such as low self-esteem (Broder & Strauss, 1991); depression, inhibition (Kapp-Simon et al., 1992); reduced cognitive function (Kapp-Simon & Krueckeberg, 1995); internalized social anxiety (Pope & Ward, 1997); elevated parental stress (Speltz et al., 1997); reduced achievement in school (Broder et al., 1998) in CLP population. These include affected social skill development (Krueckeberg & Kapp-Simon, 1993) and peer acceptance (Broder et al., 1999).

However, many adults with craniofacial anomalies find ways to live with their difference and succeed using the measures they construct. They help others to understand that in spite of numerous challenges, healing occurs and they join nonaffected persons in the search for meaning and quality in their lives (Strauss & Fenson, 2005). Importantly, adolescents with craniofacial conditions and their families demonstrate a range of effective adaptation patterns and strategies to enhance issues having an impact on quality of life (Broder, 2001). They strive to increase adaptive coping so reduce psychological distress and improve well-being. Perceived self-efficacy, defined as a belief about changes in a person's confidence in his or her ability to cope effectively, which, according to self-efficacy theory (Bandura, 1997), is an important prerequisite to changing coping behavior.

Stress and coping theory (Lazarus & Folkman, 1984) defines stress as a person-environment relationship that is evaluated as personally significant and as exceeding a person's resources for coping. Bandura (1997) conceptualizes coping self-efficacy as the beliefs about one's ability to perform specific coping behaviors, including taking actions that reduce the likelihood of negative outcomes and controlling one's thoughts and feelings concerning the situation. Perceiving that one has greater efficacy in a stressful situation affects cognitive, motivational, affective and decisional processes involved in the formulation and enactment of coping efforts. This concept is also relevant to stress and coping theory and the secondary appraisal of controllability. Perceived coping self-efficacy would be expected to influence quality of life in patient with craniofacial conditions.

While the use of adult coping self-efficacy measures in supplementing clinical indicators has increased (Carver et al., 1989; Chesney et al., 2006), that for children or adolescent has lagged behind, because of the difficulty of developing and validating (Sandler et al., 2000). The KIDCOPE was used as a measure of coping strategies used by adolescents (Spirito et al., 1988) and has been used extensively to examine young people's adjustment to a stressor (Stallard et al., 2001). It was used measures general stressor but adolescent with repaired CLP had frequency of difficulties experienced

(Chimruang et al. 2011). Therefore, this study aim to the development and validity and reliability testing of the Coping Self-Efficacy Assessment for repaired CLP adolescents aged 11 to 18 yrs. The aim was to produce a measure which conformed to contemporary concepts of adolescent health and had discriminative and evaluative properties, and which is applicable to adolescent with difference gender and cleft type.

Methods

Participants in the study were adolescents aged 11 to 18 years with repaired cleft lip and cleft palate. They were recruited from four orthodontic clinics at the Faculty of Dentistry, Mahidol University, Khon Kaen University, Chiang Mai University, and Prince of Songkla University in Thailand. Adolescent eligibility for participation in the study included having a congenital non-syndromic cleft lip and cleft palate, the ability to speak and read Thai, and at least 6 months for craniofacial surgery. All participants gave consent/assent to be in the study, and all procedures were approved by the Institutional Review Board at each of the respective sites.

The Coping Self-Efficacy Assessment items were generated in two studies. Study 1, the in-depth interview collects from selective adolescents with repaired CLP and parents. The participants were asked how in the past three months they had experienced the problem described. Qualitative data is constructed a preliminary pool of items. The comprehensiveness, relevance, and clarity of these items were assessed by an expert panel composed of three professionals. Study 2, a preliminary pool of 31 items was reduced to 16 items by statistics analysis process. Try-out group is 120 adolescent patients in similar conditions.

Coping Self-Efficacy Assessment was assessed with a measure of a person's perceived ability in performing specific coping behaviors when faced with life challenges. Participants were asked, 'When things aren't going well for you, or when you're having problems, how confident or certain are you that you can do the following': They were then asked to rate on an 11-point scale the extent to which they believe they could perform behaviors important to adaptive coping. Anchor points on the scale were 0 ('cannot do at all'), 5 ('moderately certain can do') and 10 ('highly certain can do'). An overall score was created by summing the item ratings. Coping Self-Efficacy Assessment was constructed based on a guideline by Lee & Bobko (1994) and Bandura (2006).

The performance of the questionnaire was assessed in a validity and reliability study. Content validity of each items was evaluated by five experts define the content of items though index of consistency. All item is analyzed for item discrimination (t-ratio >.20) and Pearson correlation coefficient (corrected item-total correlation > .30) (Aiken, 2003). Reliability for the Coping Self-Efficacy Assessment scores was measured via internal consistency coefficient alpha (Cronbach, 1951). A minimum coefficient of .70 was considered necessary and useful for making group comparisons.

Analyses included assessing construct validity through confirmatory factor analyses. We also report the following descriptive measures of model fit that are often used to evaluate the soundness of a measurement model: the standardized root mean residual

(SRMR; Bollen, 1989), the comparative fit index (CFI; Bentler, 1990), and the root mean square error of approximation (RMSEA; Browne & Cudek, 1993).

Vandenberg and Lance (2000) suggests cut-off values of .90 for the CFI and related incremental fit indices, .08 for the RMSEA, and .10 for the SRMR. The current study was followed this approach in evaluating the global model fit tests and indices reported below. Coping Self-Efficacy Assessment was also examined composite or construct reliability (CR > 0.70) (Fornell & Larcker, 1981; Bagozzi & Yi, 1988) and convergent validity (Average Variance Extracted > 0.50) (Fornell & Larcker, 1981; Gerbing & Anderson, 1988). The resulting data were analyzed with the use of SPSS and LISREL. The alpha value was set at $p < .05$. Independent sample t-test is used to test for statistical significant differences between difference sex and cleft type.

Results and Discussion

Eighteen adolescents and six parents were interviewed for the previous study, and 221 participated in the validity and internal consistency reliability study. The characteristics of adolescents in terms of gender, age, cleft type, and socioeconomic status are shown in Table 1. Participants' mean age for the combined studies was 14.13 (SD = 2.01, range 11–18 years), 54% of participants were male, 58% were 11-14 aged, 71% of participants had unilateral cleft lip and cleft palate, the median family income was approximately $300, and individual who get income < $300 a month per 2-4 family members were 42.5% of sample group.

(Table 1.*)

Study 1 found that stressful situations can category into 4 domains: health symptoms, body functional limitations, negative emotions, and social participation limitation. Cleft lip and cleft palate affect participants' health problems or adverse effect on chewing, drinking, breathing, hearing, speech and facial expression, and cognition. All of them reported speech problems experience especially slurred words with /s/, /d/, and /r/. Participants felt weaker than their peers or sibling and always had chronic illness. Participants expressed unpleasant emotions: worry, uncertainly, shyness, boredom, moodiness and some even wept openly when they fell ill. This findings show that psychological adjustment problems close related to their facial differences and other peoples' opinions. Others' reactions to a cleft, as well as problems with appearance, hearing and speech, can made a child more vulnerable to teasing or bullying at various life stages. These obstacles also impacted their academic performance both frequently missing school and feel out of place.

Specific coping behaviors were performed to reduce the consequences of their problems. When participants obtain a fit between the controllability of the stressful events and the choice of their coping strategies, they experience less psychological and social maladjustment. Coping strategies involved 1) problem focused-coping (i.e. responses that focus on changing problematic aspects of stressful events) such as learning about CLP, analyzing and solving the problem ; 2) emotion focused-coping (i.e. responses that focus on managing emotional responses to stressful events) such as Karma belief of Buddhist, controlling unpleasant emotion, and distraction; and 3) getting support from others (i.e. seek help from parents, peers, health professionals, or significant others to cope with problem) such as parental support, peer acceptance,

and doctor-patient communication. Table 2 represented the 16-item Coping Self Efficacy Assessment questionnaire based on qualitative analysis.

(Table 2.*)

Study 2, Try-out questionnaire consists of preliminary pool of 31 items and adolescents rated their degrees of confidence with interval units from 0 ('cannot do at all'), 5 ('moderately certain can do') and 10 ('certain can do'). Although data were collected by self-completed questionnaire, the number of missing values was low. Item analysis was showed item discrimination by t-ratio range from 3.25 to 11.00 and Pearson's corrected item-total correlation range from .30 to .70. We excluded 15 items from overall scale and derived obtain items. The questionnaire was assigned to collect data in final sample. The 16-items Coping Self-Efficacy Assessment scores ranged from 1 to 176, with a mean of 126.24 and a standard deviation of 24.32 in Table 3. Overall Coping Self-Efficacy scores has good reliability coefficient (α=.89) and excellence of item discrimination by t-ratio range from 7.04 to 13.55 and corrected item-total correlation range from 0.40 to 0.61.

CFA model use data in Study 2 by assigning each of the 16 items to factor. The overall fit of this model was very good on a descriptive basis: Chi-Square=124.96, df=101, $p < .05$, NFI=.91, CFI=.98, RMSEA =.04, SRMR=.06, and $CAIC_{model} < CAIC_{saturated}$. Factor loadings from the final CFA model appear in Figure 1 and Table 4. Confirmatory factor analysis can reduce 16 items to 3 factors of their coping strategies under 4 stressful events: 1) problem-focused coping factor (5 items, mean score=8.00, α=.68), 2) emotion-focused coping factor (6 items, mean score=7.70, α=.79), and 3) getting support from others factor (5 items, mean score=8.03, α=.76). Internal consistency and reliability are strong for all factors. The Coping Self-Efficacy Assessment scores do not differ significantly between difference gender (t=0.18, p>.05) and cleft type (t=0.63, p>.05) in Table 5.

(Table 3.*)
(Figure 1.*)
(Table 4.*)
(Table 5.*)

The Coping Self-Efficacy Assessment was developed to measure adolescents' evaluations of their coping-self efficacy within challenge life. Confirmatory factor analyses of the Coping Self-Efficacy Assessment revealed three factors: use problem-focused coping, use emotion-focused coping, and get support from others. The three derived 16-items demonstrate good reliability and validity. The Coping Self-Efficacy Assessment is not conducted a specific stressful situation but assessed individual's confidence with effort to choose coping strategies. Thus, the score changing can be attributed to differ in their one's confidence regarding the ability to cope. It is difficult to assess such changes with instruments that assess coping directly, such as the Ways of Coping scale (Folkman & Lazarus, 1988), because such measures are intended to assess coping in relation to specific stressful events. Even if participants are asked to focus on a chronic, in recurring event, are difficult to interpret. However, the role of positive emotions in the stress process and the meaning-based coping processes found importantly (Folkman & Moskowitz, 2000, 2004). Further study should including self-efficacy related to meaning-based coping in craniofacial conditions, such as

reordering life goals and searching for the benefits associated with enduring a stressful period.

These results confirm that stressful situations affect to psychosocial adjustment of adolescents with repaired cleft lip and cleft palate. Young people with a facial disfigurement may be vulnerable to a range of psychosocial adjustment difficulties. Facial and speech differences create stigmata that jeopardize an individual's sense of well-being (Goffman, 1963). In essence such conditions can be potential adversities like other social impediments. Although data generally support the 'beauty is good' theory (Eagley et al., 1991), what have we really learned from the psychological study of adolescents with craniofacial differences?

Coping of adolescents who had a noticeable facial difference was most strongly correlated with positive consequences, adolescents who had learned to cope with having a facial difference reported more positive consequences of having a facial difference (Patrick et al., 2007). In addition, Berger and Dalton (2011) support that psychosocial adjustment in adolescents was predicted by their social experiences and maternal well-being. Satisfaction with appearance, perceived speech problems, and the use of avoidant coping strategies were also important factors relating to their adjustment. As might be expected, stigma and negative self-image were positively correlated with coping, suggesting that adolescents with repaired CLP who experience more stigma are more likely to employ coping strategies, which appears to be more likely to result in positive consequences, although no causal or temporal association can be inferred and not differ between gender or cleft type.

This psychometric instrument is distinguished by its focus on the coping self-efficacy of living with craniofacial condition as perceived by the youth themselves. The perceptual items are known only to the youth and reflect their evaluation of what it is like to be living with this condition. The instrument would thus be useful in assessing these views. The items are selected and scored such that groups and individuals with a higher perceived coping-self efficacy can be identified. The measure may be used to complement the current widespread reliance on clinician-derived outcome measures of aesthetics and function to provide a more patient-centered profile for comparisons of treatment effects.

However, there are two limitations to the present study. First, the sample is specific population based who have non-syndromic repaired cleft lip and cleft palate. This may limit generalizability to other populations, particularly persons coping with conditions other than craniofacial conditions. Second, Average Variance Extracted (AVE) in a latent variable slightly below 0.50 might be acceptable in new measurement model of first time study. Ping (2009) suggested the measurement in need replicate convergent validity and held to a higher significance requirement (factor loading significant $|t| > 2.2$ and $CR > 0.70$).

Conclusion

Coping Self-efficacy Assessment is a very good validity and reliability psychometric instrument. This finding indicate that participants both gender and cleft type have quite highly confident to cope their pressure. The measurement is now ready for wider use in intervention studies. Such applications will importantly yield data to evaluate perceived coping ability of adolescent with cleft lip and cleft palate.

Table 1. Socio-demographic characteristics of adolescents (n=221)

Demography	n	percentage
Gender		
Male	120	54.30
Female	101	45.70
Age (y)		
11 -14	129	58.37
15 -18	92	41.63
Cleft type		
Unilateral cleft lip and cleft palate	157	71.04
Bilateral cleft lip and cleft palate	64	28.96
SES (family income per family members)		
income < $300 a month per 5-10 members	30	13.6
income < $300 a month per 2-4 members	94	42.5
income > $300 a month per 5-10 members	20	9.0
income > $300 a month per 2-4 members	77	34.9

Table 2 Content categories of Coping Self-Efficacy Assessment

Item	Coping Self-Efficacy Assessment	Stress situations and coping strategies			
		Health symptoms	Body functional limitations	Negative emotions	Social participation limitations
1	When facial scar contracture obviously, I understand repaired CLP surgery may affect its.	Problem-focused coping			
2	When facial scar contracture obviously, I accept the problem in the hope that it will go away.	Emotion-focused coping			
3	I can consult the doctor about health problems.	Getting support from others			
4	I have carefully chewing food.		Problem-focused coping		
5	I can laugh or smile in public.		Emotion-focused coping		
6	When mumbled or slurred speech, I let talk with others frequently.		Getting support from others		
7	When mumbled or slurred speech, I can attend speech therapy with professional.				
8	When feeling difference from others, I can take my mind off the issue.			Emotion-focused coping	
9	When self-dissatisfied my cleft, I can calm down.				
10	When feeling difference from others, I can stop imagine.				
11	When self-dissatisfied my cleft, I can request sympathy from others.			Getting support from others	
12	When doctor appointment in studying time, I can clear up my schoolwork in time.				Problem-focused coping
13	When teasing or bullying, I can be attracted to teasers or bully.				
14	I can arrange every doctor appointments despite of studying time.				
15	When teasing or bullying, I can put up with others.				Emotion-focused coping
16	When teasing or bullying, I can request help from my family or friends.				Getting support from others
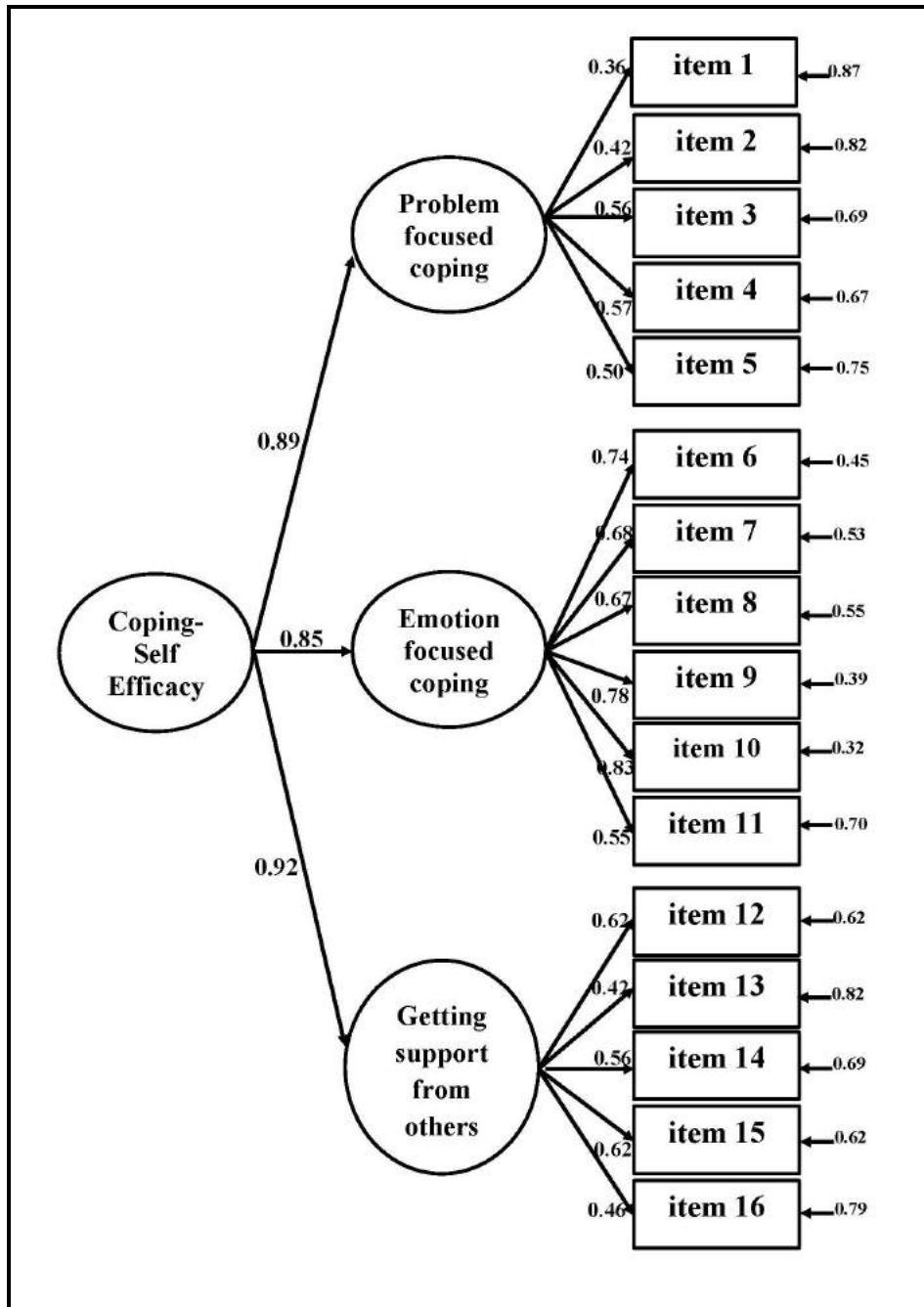
Figure 1: Confirmatory factor analysis loadings of
16-items Coping Self-Efficacy Assessment

Table 3 Descriptive data, item analysis, and internal consistency of the Coping Self-Efficacy Assessment and subscales

Coping Self-Efficacy Assessment	Number of items	Mean score	SD	t-ratio	Corrected item-total correlation	Cronbach α
Problem-focused coping	5	40	12.25	7.04-11.09	0.40-0.60	.68
Emotion-focused coping	6	46.2	14.64	10.21-13.55	0.54-0.61	.79
Getting support from others	5	40.15	12.45	8.28-11.91	0.48-0.61	.76
Total scale	16	126.24	24.32	7.04-13.55	0.40-0.61	.89

Table 4 Construct reliability and convergent validity of the Coping Self-Efficacy Assessment and subscales

Coping self-efficacy factors	Factor loading	R^2	CR	AVE
Problem-focused coping	0.89	0.80	-	-
Emotion-focused coping	0.85	0.72		
Getting support from others	0.92	0.85		
3-factors	-	-	0.89	0.36

Table 5 Coping Self-Efficacy Assessment scores by gender and cleft type

Category groups		Mean score	SD	t	p-value
Gender	Female	126.56	25.92	0.18	0.85
	Male	126.08	23.04		
Cleft type	Bilateral CLP	128	26.72	0.63	0.52
	Unilateral CLP	125.6	23.36		

*$p < 0.05$

References

Aiken, L.R. (2003). *Psychological Testing and Assessment*. 11th ed. Boston: Allyn and Bacon.

Bagozzi, R.P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.

Bandura, A. (1989). Self-regulation of motivation and action through internal standards and goal systems. In *Goal Concepts in Personality and Social Psychology, ed. LA Pervin* (pp. 19–85). Hillsdale, NJ: Erlbaum.

Bandura, A. (1997). *Self-efficacy: The exercise of control* (p. 115, 137–144). New York: W. H. Freeman.

Bandura, A. (2004). Health promotion by social cognitive means. *Health Educ. Behav*, 31(2), 143–64.

Bandura, A. (2006). Guide for constructing self-efficacy scales. In Pajares, F., & Urdan, T.(Eds.), *Self-efficacy beliefs of adolescents* (Vol. 5, pp. 307-337). Greenwich, CT: Information Age Publishing**.**

Bentler, P.M. (1990). Comparative indexes in structural equation models. *Psychological Bulletin*, 107, 238–246.

Berger, Z.E., & Dalton, L.J. (2009). Coping with a cleft: psychosocial adjustment of adolescents with a cleft lip and palate and their parents. *Cleft Palate Craniofac J*, 46, 435–443.

Berger, Z.E., & Dalton, L.J. (2011). Coping With a Cleft II: Factors Associated With Psychosocial Adjustment of Adolescents with a Cleft Lip and Palate and Their Parents. *Cleft Palate Craniofac J*, 48(1), 82-90.

Bollen, K.A. (1989). *Structural equations with latent variables*. New York: Wiley.

Broder, H.L, & Strauss, R.P. (1991). Psychosocial problems and referrals among oral-facial team patients. *J Rehabil*, 57, 31–37.

Broder, H.L. (2001). Using Psychological Assessment and Therapeutic Strategies to Enhance Well-Being. *The Cleft Palate-Craniofacial Journal*, 38(3), 248-254.

Broder, H.L., Richman, L.C., & Matheson, P.B. (1998). Learning disability, school achievement, and grade retention among children with cleft: a two-center study. *Cleft Palate J.* 35, 127–131.

Browne, M.W., & Cudek, R. (1993). Alternative ways of assessing model fit. In: Bollen, KA.; Long, JS. (Eds.). *Testing structural equation models*. Newbury Park, CA: Sage.

Chesney, M.A., Neilands, T.B., Chambers, D.B., Taylor, M.J., & Folkman, S. (2006). A validity and reliability study of the coping self-efficacy scale. *British Journal of Health Psychology,* 11, 421-436.

Chimruang, J., Soadmanee, O., Srisilapanan, P., Patjanasoontorn, N., Nanthavanich, N., & Chuawanlee, W. (2011). A qualitative study of health-related quality of life and psychosocial adjustments of Thai adolescents with repaired cleft lips and palates. *J Med Assoc Thai*, 94 Suppl 6, S45-50.

Christensen, K., Juel, K., Herskind, A.N., & Murray, J.C. (2004). Long term follow up study of survival associated with cleft lip and palate at birth. *Br Med J.* 328, 145-147.

Eagly, A. H., Ashmore, R. D., Makhijani, M. G., & Longo, L. C. (1991). What is beautiful is good but . . .: A meta-analytic review of research on the physical attractiveness stereotype. Psychological Bulletin, 110, 109-128.

Folkman, S, & Moskowitz, J.T. (2000). Positive affect and the other side of coping. *American Psychologist*, 55(6), 647–654.

Folkman, S., & Lazarus, R.S. (1988). *The Ways of Coping Questionnaire*. Palo Alto, CA: Consulting Psychologists Press.

Folkman, S., & Moskowitz, J.T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745–774.

Fornell, C., & Lacker, D.F. (1981). Evaluating Structural Equation Models with Unobservables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50.

Gerbing, D.W., & Anderson, J.C. (1988). An updated paradigm for scale develop incorporating unidimensionlity and its. *Journal of Marketing*, 25(2), 186-193.

Goffman, E. (1963). Stigma: Notes on the Management of Spoiled Identity. Simon and Schuster Inc, New York.

Johnsen, D.C. (2005). Principles of Cleft Lip and Palate Formation. In Bishara, S.E. *Textbook of Orthodontics* (pp.25-30). Philadelphia: Saunders.

Kapp-Simon, K., Simon, P.J., & Kristovich, S. (1992). Self-perception, social skills, adjustment, and inhibition in young adolescents with craniofacial anomalies. *Cleft Palate Craniofac J*, 29, 352–356.

Krueckeberg, S.M., Kapp-Simon, K.A., & Ribordy, S.C. (1993). Social skills of preschoolers with and without craniofacial anomalies. *Cleft Palate J*, 30, 475–481.

Lee, C., & Bobko, P. (1994). Self-efficacy beliefs: Comparison of five measures. *Journal of Applied Psychology*, 79(3), 364-369.

Leventhal, H., Weinman, J., Leventhal, E.A., & Phillips, L.A. (2008). Health psychology: the search for pathway between behavior and health. *Ann. Rev. Psychol* , 59, 477-505.

Patjanasoontorn, N., Pradubwong, S., Mongkoltawornchai, S., Phetcharat, T., Chowchuen, B. (2010). Development and reliability of the THAICLEFT quality of life questionnaire for children with cleft lip/palate and families. *Journal of The Medical Association of Thailand*, 93(Suppl.4), S16-S18.

Patrick, D.L., Topolski, T.D., Edwards, T.C., Aspinall, C.L., Kapp-Simon, K.A., Rumsey, N.J., Strauss, R.P., & Thomas, C.R. (2007). Measuring the Quality of Life of Youth With Facial Differences. *The Cleft Palate-Craniofacial Journal*, 44(5), 538-547.

Ping, R.A. (2009). Is there any way to improve Average Variance Extracted (AVE) in a Latent Variable (LV) X (Revised)?. URL: http://home.att.net/rpingjr/LowAVE.doc.

Pope, A.W., & Ward, J. (1997). Factors associated with peer social competence in preadolescents with craniofacial anomalies. *J Pediatr*. 22, 455–469.

Sandler, I.N., Tein, J.Y., Mehta, P., Wolchik, S., Ayers, T. (2000). Coping efficacy and psychological problems of children of divorce. *Child Development*, 71(4), 1099-1118.

Skari, H., Malt, U.F., Bjornland, K., Egeland, T., Haugen, G., Skreden, M., Dalholt, B.M., Bjornstad, O.A, & Emblem, R. (2006). Prenatal diagnosis of congenital malformations and parental psychological distress--a prospective longitudinal cohort study. *Prenat Diagn*, 26(11), 1001-9.

Speltz, M.L., & Richman, L. (1997). Progress and limitations in the psychological study of craniofacial anomalies. *J Pediatr Psychol.* 22, 433–438.

Spirito, A., Stark, L.J., & Williams, C. (1988). Development of a brief coping checklist for use with paediatric populations. *J Paediatr Psychol*, 13, 555–574.

Stallard, P., Velleman, R., Langsford, J., & Baldwin, S. Coping and psychological distress in children involved in road traffic accidents. Br J Clin Psychol. 2001, 40, 197–208.

Strauss, R.P., & Fenson, C. (2005). Experiencing the good life: literary views of craniofacial conditions and quality of life. *Cleft Palate-Craniofacial Journal*, 42, 14 18.

Vandenberg, R.J., & Lance, C.E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3(1), 4–69.

World Health Organization. (2002). *Global Strategies to Reduce the Health Care Burden of Craniofacial Anomalies*. Geneva: WHO.
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The Relationship between Acculturation Attitudes and Depression among Japanese Persons Living in Brazil

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Abstract

We focused on depression in Japanese people living in Brazil and a bidimensional model of acculturation that considered individuals' orientation toward their home and Brazilian culture. We also assessed the relevance of Berry's four-cell typology of acculturation (integration, assimilation, separation, and marginalization). We predicted that mental health would be more stable if individuals maintained contact with both cultures.

Participants (55 male, 61 female) were all born in Japan and had been exposed to their own culture before moving to Brazil. A questionnaire survey was conducted. Results showed that individuals who oriented toward Brazilian culture showed significantly lower rates of depression. Individuals who oriented toward their own culture did not show any relation with depression. When the four acculturation types were compared, the integration group participants had the lowest rate of depression, followed by the assimilation group. The separated and marginalized groups had the highest rates of depression.

Keywords: acculturation, Brazil, Japanese people living in Brazil, depression,

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Introduction

Current Status of All Overseas Japanese People and Japanese Residents of Brazil

According to the Research and Statistics 2014 summary version provided by the Ministry of Foreign Affairs Bureau of Consular Affairs Policy Division on the number of overseas Japanese residents, there are 1,258,263 Japanese individuals residing in foreign countries. This estimate includes residents of foreign countries for three months or more, and permanent residents. There was an increase of 8,686 people from the previous year (0.7%); this was the greatest increase since this statistical survey was initiated in 1968. In the flow of internationalization, Japanese people are moving globally.

Among all Japanese individuals living overseas, about 4.5% (56,217 people) are residents of Brazil. Brazil has the second largest number of Japanese permanent residents, behind only the United States. The Japanese-Brazilian community consists of Japanese permanent residents and their descendants, and includes about 1.3 million people (Japanese Immigrant History Museum of Brazil, 2008), or 1.4 million of those identified as Japanese-Brazilian (Hagiuda, 2006). Indeed, the Japanese words "Nikkei" (Japanese-Brazilian), "Issei" (first generation), and "Nisei" (second generation) have become integrated in Brazil. Furthermore, "Japones garantido" (We can trust Japanese, because they are Japanese) has become a common phrase (Japanese Immigrant History Museum of Brazil, 2008). This demonstrates that Japanese people have been accepted and established in Brazil.

A motivation of Japanese individuals to go to Brazil is the immigration policy of the Japanese government since 1908. Nearly 40% of Japanese individuals living overseas resided in Brazil at one time. The current number of Japanese residents in Brazil is about 38% of its peak value (1975; 146,488 people). However, there are many Japanese individuals who are long-term, temporary residents; these individuals are completing language study abroad or overseas appointments. The number of Japanese individuals in Brazil is the seventh-largest representation of Japanese people worldwide.

With the long history of immigration to Brazil, there is a large-scale Japanese community in Brazil. Thus, it appears necessary to conduct psychological research on Japanese individuals living in Brazil.

The Point at Issue

There is little research documenting the psychological characteristics of Japanese individuals living in Brazil; however, there are many studies investigating this issue in North America. For instance, Deguchi (2010), Shiga (2014), and Asakura et al. (2004) conducted studies in the US. They investigated the attitudes and thoughts about host and ethnic cultures among Japanese individuals and their descendants. However, many anthropological studies have been conducted about Japanese individuals living in Brazil. While these studies examined the psychology of Japanese immigrants and their descendants in the acculturation process, they did not utilize rigorous psychological methodology.

There are some psychological studies of Japanese people in Brazil. For instance, Tanahara (1979) conducted a comparative study of psychological and personality traits among Japanese college students in Brazil and Okinawa. In addition, Shibata (1974) conducted a comparative study of the mental health of Japanese persons living in urban areas, suburban areas of Sao Paulo, and those living in rural areas of Japanese-Brazilian colonies (Japanese communities). In these studies, the relation between the general standard of living in immigrant destinations, individuals' personality traits, the incidence of mental and physical disease, and fitness to the host society were considered. The results of these studies indicated that Japanese immigrants living in suburban areas had lower mental health functioning than those living in rural areas. The researchers indicated that this was likely due to the fact that Japanese persons living in suburban areas expected to have a higher standard of living. Moreover, Japanese immigrants often have strong sense of nostalgia for their home country as well as separation anxiety from Japan. Thus, it appears that there is a need to understand mental health and acculturation in this population. However, these studies were conducted 30–40 years ago; thus, the concepts examined in these studies have become outdated.

However, Kang et al. (2009) recently examined Korean-Brazilians' mental health. Moreover, Lincoln et al. (2007) recently investigated Japanese-Brazilians' mental illness. These studies verified the poor mental health of immigrants and their descendants, as well as the potential prognosis of mental illness. However, there has not been extensive research with Japanese individuals.

Psychological Study of Immigrants in the Western Cultures

In Western cultures, there is an extensive literature on the psychological adjustment of immigrants. In particular, Sam and Berry's (1995) distinguished study is widely known for the investigation of the role of acculturation attitudes in immigrants' adaptation. The same researchers also introduced their well-known bidimensional model of acculturation; this model considers individuals' orientation toward their ethnic and host culture. Specifically, this bidimentional model incorporated two dimensions—host and ethnic—divided participants into four groups based on the median of the host and ethnic dimensions. This model has been applied widely (Berry, 1997; Ward & Kenny, 1994; Ting-Toomey, 2000) and includes four types of acculturation attitudes: separation, integration, assimilation, and marginalization. Berry (1997) indicated that the "separation" group prefers tradition and the retention of ethnic characteristics; they do not adhere to the norms and values of the host culture. The "integration" group maintains their ethnicity while simultaneously accepting the host culture and social customs. The "assimilation" group does not maintain their ethnic norms and values, and instead they integrate as members of the host society. Finally, the "marginalization" group does not interact with either the ethnic group or the host mainstream society. Previous research (Berry, 1997; Jang et al., 2007; Ward & Kenny, 1994) has shown that the "integration" group demonstrates stable acculturation. Therefore, it would be expected that individuals who maintain strong orientations to both the ethnic and host culture will demonstrate good mental health.

In the current study, we anticipated that Japanese immigrants in Brazil would have constructed a stable life, and would have achieved a certain degree of cultural change over time. However, there are no existing reports on the relation between acculturation attitudes and the mental health of Japanese immigrants in Brazil. Furthermore, it is not clear whether similar results obtained in Western cultures would be obtained with Japanese individuals living in Brazil. Indeed, the specific features of the acculturation process that involve the features of Brazilian society or Japanese ethnicity have not been examined.

In a previous study, we utilized semi-structured interviews to explore cross-cultural acceptance and the process of adaptation among 21 Japanese individuals living in X city, Brazil from 2010 to 2011 (Sako, 2013). While we observed that the basic acculturation structure of Japanese individuals living in Brazil were similar, there were some differences.

We found that individuals who reported positive feelings and attitudes toward Brazil achieved adaptive psychological states. Furthermore, we found that those who maintained a moderate amount of Japanese culture could incorporate Brazilian culture appropriately and maintained good mental health.

In this study, we targeted a larger number of Japanese individuals living in Brazil than in our previous research. We also measured the relationship between high- and low-host ethnic orientations and psychological health using Berry's (1997) framework. Specifically, we employed a bidimensional model of acculturation considering orientation toward ethnic and Brazilian culture; we divided the participants into four groups based on the median of each dimension. We sought to verify whether individuals achieve optimal mental health when their orientations toward both their ethnic and host culture are high. We focused on depressive tendencies, since they have often been noted in the mental health of immigrants. For instance, given the psychological changes associated with immigration, Bhugra and Ayonrinde (2004) reported that depression is a common outcome for immigrants. Therefore, in this study, we sought to elucidate the relationship between acculturation and depressive tendencies among Japanese individuals living in Brazil.

Hypothesis

We expected that those individuals who were classified as in the "integration" group, or those that possessed a bicultural orientation characterized as high affiliation with both the ethnic and the host group, would show the lowest depressive tendencies of the four types of acculturation attitudes among Japanese individuals living in Brazil

Method

Setting

Data were collected from the provincial capital of southern Brazil, Z city. This city is known as a city of immigrants; there are many of descendants from both Japan and European countries, including Germany, Italy, Poland, and Ukraine There are 1.75 million people living in Z city, including 45,000 Japanese-Brazilian（Hagiuda, 2006）and 4,000 Japanese individuals (Ministry of Foreign Affairs Bureau of Consular Affairs Policy Division, 2014). After Sao Paulo, Z city has the second-largest population of Japanese residents in Brazil.

There are functioning Japanese organizations, such as the Japanese Association, from whom we obtained cooperation with our investigation. Therefore, we chose Z city as the study setting.

Participants

We administered a questionnaire to Japanese adults in Z city, Brazil. We defined "Japanese" as individuals who were born in and have experienced living in Japan. In addition, in order to be eligible for participation, they had to have lived in Brazil for more than three months. The length of stay was based on the Ministry of Foreign Affairs of Japan criteria that define long-term residents as those who remain abroad for more than three months.

Participants included 128 Japanese individuals; however, 12 were excluded because more than three items were missing on their questionnaires. Therefore, a total of 116 participants (55 male, 61 female) had valid responses. Participants' ages ranged from 20 years to over 80 years old. The age structure was as follows: 20s ($n = 5$), 30s ($n = 21$), 40s ($n = 19$), 50s ($n = 19$), 60s ($n = 14$), 70s ($n = 10$), and 80s and above ($n = 28$). The distribution of time in Brazil was as follows: 1–5 years ($n = 35$), 6–10 years ($n = 14$), 11–20 years ($n = 5$), 21–30 years ($n = 10$), 31–40 years ($n = 6$), 41–50 years ($n = 6$), over 51 years ($n = 40$). Seventy-two people (62%) intended to live in Brazil permanently, 33 people (28%) were scheduled to return to Japan, and 11 people (10%) were undecided.

Procedure

We recruited participants from June to October 2013 at event venues, such as the Japan Festival. We asked individuals to participate on the spot and collected their responses accordingly. We also asked for cooperation from Japanese companies, religious groups (e.g., Christianity, Jodo-shu, and Konko-kyo), and Japanese organizations that were acquainted with the investigators. It was assumed that some of the respondents did not speak Japanese daily; therefore, the investigation request form was provided in both Japanese and Portuguese. The questionnaire was only presented in Japanese, but it was represented phonetically for all of the kanji. For all participants other than Japanese sojourners, the investigator or Japanese staff paid attention during investigation to identify any difficulty understanding the sentences in Japanese. We provided support by reading questions aloud if it was desired. After the investigation, we compensated all participants with a piece of stationery (e.g., a brush pen).

Measures

The Composition of the Questionnaire

For the unity of understanding among the respondents, the following question was included at the beginning of the questionnaire since the terms "Japanese" "Japanese-Brazilians," and, "Issei" need to be clearly distinguished, because these classifications vary from person to person. Specifically, "Japanese" was defined as Japanese individuals who stayed in Brazil for more than three months. These individuals were born in and grew up in Japan, prior to moving to Brazil and living there as Japanese nationals. "Issei" (first generation) was defined as individuals who were born in and grew up in Japan, but moved to Brazil and were nationalized as Brazilian. Finally, "Japanese-Brazilian" was defined as Issei who were naturalized in Brazil, as well as and Brazillian-born Japanese descendants. We also assessed demographic characteristics, including gender, age, age at the time of travel, length of residence, nationality, and individuals' future plans of residence (intention to live in Brazil or Japan).

Survey items

The survey consisted of 13 paired host and ethnic items that examined attitudes and ideas about friendship, customs, nationality, diet, and lifestyle (e.g., I have a close Brazilian friend or I have a close JP or Nikkei friend). Each of the items was scored on a 5-point Likert-type scale (1 = *completely disagree*, 5 = *completely agree*). In order to sort the items into two dimensions, each question was asked twice: once for host and once for ethnic orientation. For the host items, questions were phrased as follows, "How much interest do you have in adapting to the host country, and to what extent have you acted towards this interest?" For the ethnic items, the questions were phrased as follows, "How much interest do you have in maintaining your own ethnic culture or customs, and what extent have you acted towards this interest?" The first author constructed these items for a Japanese sample residing in Brazil based on previous research (Lee & Tanaka, 2011). Following Sam and Berry (1995), participants completed seven depressive tendency items that assessed hope or joy about their current life or their future in general.

Ethical Considerations

We indicated in writing that the questionnaire was unregistered. Furthermore, participants were informed that their responses would be processed statistically, and that the results would not be used for any purpose other than this study.

Results

Factor Structure of the Acculturation Attitudes and Depressive Tendencies Acculturation Attitudes

In order to examine the potential impact of host and ethnic items on one another, exploratory factor analysis (EFA) was conducted for both the host and ethnic items (Table 1). Based on the eigenvalues and scree plot, attenuation was detected. Therefore, we adapted a two-factor structure and subjected this to factor analysis. Specifically, EFA with varimax rotation was performed using the principal-factor method with two factors.

Table 1

Host- and Ethnic-Orientation Items

Items	Factor 1	Factor 2
I have close Brazilian friends	.817	-.080
It is possible to behave naturally when I am with BR	.702	.035
I am well informed about Brazilian politics and society through Brazilian magazines or newspapers	.609	-.127
I participate positively in gatherings with BR	.573	.249
I have adjusted to Brazilian lifestyles	.559	.035
I feel that I almost no different from BR	.496	.100
I don 't mind attaining Brazilian citizenship because I live in Brazil	.428	-.178
I celebrate Brazilian national holidays and anniversaries	.401	.204
I participate positively in gatherings with JP and Nikkei	.063	.626
Marriage among JP and Nikkei is acceptable to me	.008	.510
I have close JP and Nikkei friends	.143	.411
Retaining one 's JP citizenship is desirable	-.210	.393
Variance explained	23.7%	9.5%

Note. BR = Brazilian; JP = Japanese.

Ceiling effects were observed on the nine ethnic items. However, our previous research (Sako, 2013) has indicated that some of the topics are frequently mentioned when comparing host and ethnic orientations, namely relationships, marriage, and nationality. Thus, we retained those items and removed the other five that demonstrated a ceiling effect. Then, we conducted the factor analysis. After removing the four factor loadings of .35 or less and the factor loadings that were over .35 on both factors, the first factor that emerged was "Host-orientation." This factor implies that individuals perceived almost no difference between themselves and BR. Moreover, they shared similar attitudes and ideas as individuals from the host country; α=.80. Then, three factor loadings of .35 or less and a factor loading of over .35 on both factors were deleted in the second factor. This factor was labeled "Ethnic-orientation," and refers to individuals with a positive attitude towards JP and Nikkei; these individuals report that the attitudes and ideas of the country of origin are a priority; α = .52.

Depressive tendencies

For the seven items about depressive tendencies, we conducted EFA (principal factor method). Based on the eigenvalues and the scree plot, attenuation was detected. Therefore, we utilized a one-factor structure and subjected this to factor analysis. EFA with varimax rotation was performed using the principal factor method with one factor (Table 2). There were no factor loadings of .35 or less; thus, all items were retained. Seven items on one factor (e.g., constantly feeling gloomy and anhedonia) were regarded as "depressive tendency." α = .85.

Table 2

Depressive Tendency Items

Items	Factor
Sometimes I feel that there is no hope and don't want to do anything	.90
I often feel depressed without reason	.78
I do not have fun or hope	.77
Sometimes I feel depressed and want to be in bed all day long	.67
I often feel sad without reason	.58
Sometimes I think life has no meaning	.57
My life is a quite miserable	.43
Variance explained	53.7%

Correlations between the Orientation Factors and Depressive Tendencies

Descriptive statistics and correlations for the two orientation variables and depressive tendencies are shown in Table 3. A significant correlation was found between host-orientation and depressive tendencies.

Table 3

Correlations between Orientation and Depressive Tendencies

	M	*SD*	Host-oriented	Ethnic-oriented	Depressive tendencies
Host-oriented	2.98	0.84	1		
Ethnic-oriented	3.98	0.72	0	1	
Depressive tendency	1.41	0.63	-.255**	-.105	1

Note. ** $p < .01$

The Effect of High and Low of Ethnic/host Orientation on Depressive Tendencies

We divided ethnic and host orientation into two groups based on a median split of the scale scores. Then, we compared the effect of depressive tendencies by high and low ethnic/host orientation using a two-factor analysis of variance (ANOVA). The main effect of depressive tendency was observed for the low host-oriented group ($F(1, 114) = 10.07$, $p < .01$), thereby indicating that the low host-oriented group had a higher depressive tendency (Table 4).

Table 4

ANOVA for Host and Ethnic Orientation on Depressive Tendencies

		Ethnic (*M* (*SD*))		*F*		
		Low	High	Host	Ethnic	Interaction
Host (*M* (*SD*))	Low	1.52 (.09)	1.49 (.08)	10.07**	.94	.33
	High	1.29 (.10)	1.16 (.08)			

Note. $N = 114$ ** $p < .01$

Comparison of depressive tendencies by the four acculturation types

Following Berry's（1987）method, we divided participants into four groups using the bidimensional model of acculturation. Groups were defined by values higher (or lower) than the median. Participants with low host and ethnic tendency were assigned to the marginalization group ($n = 25$), those with high host and low ethnic scores were assigned to the assimilation group ($n = 25$), those with low host and high ethnic scores were assigned to the separation group ($n = 34$), and those with high host and ethnic scores were assigned to the integration group ($n = 32$). To account for the bias attributable to the different numbers in each group, we utilized the chi-square test. There were no differences observed in number of people by group ($\chi^2(3) = 2.28$, $p > .05$).

The scatterplot of the four groups of participants is shown in Figure 1. All participants chose over level 2 of ethnic-orientation, so the median score was 3.98 ($SD = .72$), which is relatively high. In contrast, host orientation was scattered more widely.
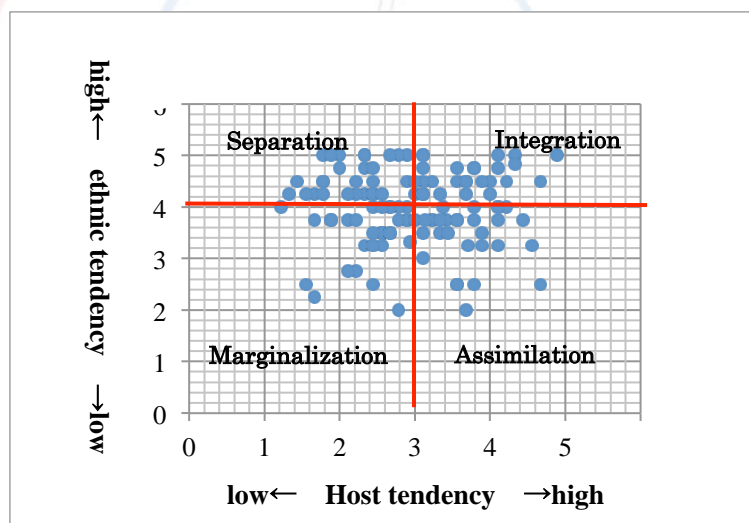
Figure 1: The scatter plot of the four groups

The attribute information for each of the four categories is shown in Table 5. There were no significant relations between the variables, except that the number of participants in the assimilation, marginalization, and separation groups differed by nationality.

Table 5

Attributes of the Four Categories

	Gender (N = 109)		Future residence (N = 109)			Nationality (N = 108)			Length of residence (In years; N = 109)		
	M	F	BR	JP	U	JP	BR	B	≤ 10	11–40	≥ 41
Assimilation	14	12	19	4	3	18	6	2	9	7	10
Integration	16	17	21	9	3	28	5	0	12	7	14
Marginalization	13	8	9	10	3	20	1	0	13	3	5
Separation	7	22	16	10	2	28	0	0	15	3	11
Total	50	59	65	33	11	94	12	2	49	20	40

Note. M = male; F = female; BR = Brazilian; JP = Japanese; U = unknown; B = both.

Multiple comparisons were analyzed using Tukey's HSD. For depressive tendency, there was a significant difference between integration and both marginalization and separation ($p < .05$). This implies that those employing integration as a strategy demonstrated the lowest depressive tendency ($F(3, 113) = 3.97$).

Table 6

One-Way ANOVA for Acculturation Attitudes on Depressive Tendencies

	Assimilation (n = 25)		Integration (1) (n = 32)		Separation (2) (n = 34)		Marginalization (3) (n = 25)		F	Multiple x comparison
	M	SD	M	SD	M	SD	M	SD		
Depressive tendency	1.45	0.76	1.11*	0.24	1.58*	0.70	1.56*	0.65	3.97**	(1) < (2), (3)

Note. *p < .05; **p < .01

Conclusion

In this study, only host orientation had a main effect on depressive tendency, while ethnic orientation did not. Furthermore, participants in this study were more ethnic-oriented. This may be attributed to the Japanese lifestyle built up by indigenous Japanese people. Specifically, the Japanese-Brazilian community has Japanese-style houses, restaurants, food shops, and the ability to converse in Japanese. This allows for maintaining Japanese customs and ethnic orientation. However, the key point in maintaining one's mental health was adapting to the host society and culture, not to maintain an ethnic orientation.

Our hypothesis was partially supported by the analysis of the four types of acculturation attitudes; specifically, depression in the integration type was significantly lower than it was in the other three types. In other words, participants who adopted assimilation and integration acculturation strategies—that is, those with high host orientations—did not significantly differ in depressive tendencies. There was only a significant difference in depressive tendencies between those who adopted integration strategies and those who adopted separation or marginalization strategies, both of which have low host orientation.

This finding is consistent with the findings of a study of Koreans living in Japan (Lee & Tanaka, 2012); specifically, in this study, those who reported differences between high and low host orientation was a main effect predictor of depressive tendencies. Although there are some differences between these two studies, namely between the host society (Japan vs. Brazil) and ethnicity (Japanese vs. Korean), the current study and the study by Lee and Tanaka (2012) demonstrate the role of host orientation in maintaining good mental health.

Comparative studies using the same four types of acculturation attitudes have produced different results, and often this depends on the survey used in the study. For instance, Ward and Kenny (1994) investigated New Zealand public officials who reside abroad; they concluded that individuals adopting integration had lower depressive tendencies than did those characterized as the assimilation type.

Furthermore, there were no significant differences between the other two types. In another study of Korean-Americans by Kim et al. (2007), the integration type had significantly lower depressive tendencies and anxiety symptoms than the separation type.

In the present study, the advantage of an integration acculturation type was also

confirmed in Japanese-Brazilian individuals. However, across these studies, the link between integration acculturation type and mental health characteristics differed by study. This was despite the fact that all of these studies showed the advantage of the integration acculturation type. The cause of this difference must be explored in future studies.

When considering the results of the present study it is necessary to consider the history surrounding immigrants in Brazil and the fact that Brazil is a multi-ethnic nation. Maeyama (2001) referred to the social image of Brazil as a racially democratic country, with a structure that has rapidly assimilated immigrants across cultures. In other words, Brazil seems to accept immigrants as Brazilian. Saito (1978) indicated that the Japanese community is not segregated in Brazil; however, this is not the case for Japanese immigrants in the United States. Furthermore, the Japanese community in Brazil is not closed; it is connected to all facets of Brazilian society.

In addition, Shiga (2005) interviewed 22 Japanese women in New York and indicated that their acculturation attitudes generally fell into either the integration or separation types. Moreover, participants in this study were more likely to be a part of the separation group unless they attempted to build relationships with locals. It is easy for Japanese persons to be separated in New York because they can easily obtain Japanese ingredients and information. Indeed, Japanese women living in New York could live as though they were living in Japan. Thus, they can live without connecting to the host society if desired.

In contrast, in Brazil, it is difficult to separate from the host society due to the societal structure that ties immigrants to Brazilian culture across multiple levels. Therefore, even if they chose to be separated, Japanese immigrants living in Brazil are inevitably conscious of their relationship with Brazilian society. This may play a role in worsening mental health. Alternatively, long-term Japanese residents of Brazil may have descendants who have already prospered; indeed, they may have houses and properties in Brazil. Moreover, it is not easy to travel to Japan due to the cost and to time restraints.

Thus, they may experience a strong sense of nostalgia and experience the feeling of wanting to return to Japan, but not being able to go back. This might cause an increase in depressive tendencies. Marginalization is the acculturation type that does not permit a sense of belonging to either the ethnic or the host society.

Thus, a sense of dissatisfaction may come from the feeling that they have "no place"; this may impair mental health.

The findings from this study suggest that the relationship with the host society plays an important role in mental health stability among Japanese people living in Brazil. This finding supports previous work from Western cultures. However, when the nature of acceptance into the host society is considered, unresolved questions remain regarding the previously mentioned study about Koreans in Japan (Lee & Tanaka, 2011). Indeed, Japan is considerably different than the multi-ethnic Brazil. Although Koreans in Japan are readily able to return to their country, it is unclear why the results of that study were consistent with the findings of this study.

There are two remaining themes that require further investigation. First, we must examine more detailed attributes such as age, the future plans, and length of residence with larger samples. The relation between acculturation attitudes and mental health should also be investigated by age, age when they traveled to the host country, and differences in social background. The attitudes and ideas of travelers may continue to change with time. Thus, it may be ideal to examine mental health among new Japanese immigrants simultaneously with historical populations.

Second, future studies should consider different classifications of culture as a target for acculturation. Maeyama (2001) suggested that people who live in Japanese-Brazilian communities may think about Japan as a foreign country. Furthermore, these individuals may have built a new dimension of Japan, such as a "New Japan," which called a Nikkei colonia (community).

The social structure of Brazil for Japanese individuals is a double structure; specifically, it comprises Brazilian society and Japanese-Brazilian society. It also consists of Japanese immigrants and their descendants. In the current study, we focused on acculturation to Brazilian society and analyzed two axes of acculturation: host and ethnic. In future work, we will focus on the acculturation attitudes of the intermediate society ("Nikkei culture") and the relations to mental health.

References

Asakura, T., Murata, A., Kawamoto, W., Nakayama, K., & Asakura K. (2004). Socioeconomic status, acculturation, discrimination, and health of Japanese Americans: Generational differences. Paper presented at the meeting of the Hawaii International Conference,2004.

Berry, J.W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review*, *46* (1), 5–68.

Colleen, W., & Antony, K. (1994). Acculturation strategies, psychological adjustment, and sociocultural competence during cross-cultural transitions. *International Journal of Intercultural Relations*, *18*, 329–343.

David, L.S., & Berry, J.W. (1995). Acculturative stress among young immigrants in Norway. *Scandinavian Journal of Psychology*, *36*, 10–24.

Deguchi, M. (2010. Acculturation narrative of first generation Japanese migrant women in the United States. *Women's Studies Critic*, *24*, 43–73 (in Japanese).

Dinesh, B., & Oyedeji, A. (2004). Depression in immigrant and ethnic minorities. *Advances in Psychiatric Treatment*, *10*, 13–17.

Hagiuda, H. (2006). J*apanese Brazilians also contribute to the creation of Eco City "Curitiba."* Retrieved from the Ministry of Foreign Affairs of Japan website: http://www.mofa.go.jp/mofaj/press/iken/06/souryouji/32.html#top

Hong, Y.Y., Morris, M., Chiu, C.Y., & Benet-Martinez, V. (2000). Multicultural minds: A dynamic constructivist approach to culture and cognition. *American Psychologist*, *55*, 709–720.

Jang, Y., Kim, G., Chiriboga, D., & King-Kallimanis, B. (2007). A bidimentional model of acculturation for Korean American older adults. *Journal of Aging Studies*, *21*, 267–275.

Japanese Immigrant History Museum of Brazil. (2008). Through the photographs: 100 years of Japanese immigrants in Brazil. *Fukyo-sha*, *12*, 124.

Junghui L., & Tomoko T. (2011). Relations among acculturation attitudes in Koreans residing in Japan (Zainichi Koreans): The cognition of the diaspora, and mental health. Paper presented at The Asian Association of Social Psychology (AASP), KunMing, China.

Junghui, L., & Tanaka, T. (9/2012). Cultural attitudes and mental health in Koreans residing in Japan: Cultural intentionality and depressive tendency, subjective sense of well-being. Paper presented at the Japan Health Psychological Association of 25th Annual Conference 135, Itabashi campus of Tokyo Kasei University (in Japanese).

Lincoln, S.M., Soraya, C., Yu, A., Koichiro, O., Keisuke, T., Takuji, H., Sergio, B. A., Decio, N., Itiro, S., Alvaro, N. A., Satoshi, K., (2007). Migrant and mental health: Japanese Brazilians in Japan and in Brazil. *Jornal Brasileiro de Psiquiatria*, *56* (*1*), 48-52.

Maeama, T. (2001). Cross-cultural contact and identity. *Ochanomizusyobou*, *205*, 19–20 (in Japanese).

Ministry of Foreign Affairs of Japan; Consular Policy Division. (2014). *Annual Report of Statistics on Japanese Nationals Overseas 2014 abridged version*. Retrieved from www.mofa.go.jp/mofaj/files/000049149.pdf

Saito, H. (1978). Japanese became foreigners. *The Saimaru Press*, (pp. 224). (in Japanese).

Saito, H. (1984). Brazil and the Japanese. *The Saimaru Press*, (pp. 6-7). (in Japanese).

Sako, K. (2013). *Process of adaptation and cross-cultural acceptance of Japanese in Brazil,* (Unpublished master's thesis). Aichi University of Education, Kariya. Japan. (in Japanese).

Sam, K., Denise, R., Jair Jesus de Mari, & Itiro, S. (2009). The mental health of Korean Immigrants in Sao Paulo, Brazil. *Cadernos de saude publica*, *25*, 4.

Shibata, I. (1974). Phenomenon of society and culture: Adaptation in the international community. In M. Kato, H. Aiba, & H. Minami (Eds.), *Pathology of modern people: Clinical social psychology of culture* (pp. 217). Seishin-Publishing (in Japanese).

Shiga, K. (2014). Migration and acculturation of Japanese immigrant women in New York, *Immigration Research Annual Report*, *20*, 39–58 (in Japanese).

Ting-Toomey, S. (2000). Ethnic/cultural identity salience and conflict styles in four US ethnic groups. *International Journal of Intercultural Relations*, *24*, 47–81.

Tanahara, K. (1979). Psychological research of immigrants: Especially Okinawa immigrants in Brazil. *A Journal of the Department of Literature Okinawa International University*, *7*, 19–61 (in Japanese).

Ward, C., & Kennedy, A. (1994). Acculturation strategies, psychological adjustment, and sociocultural competence during cross-cultural transitions, *International Journal of Intercultural Relations*, *8*, 329-343.
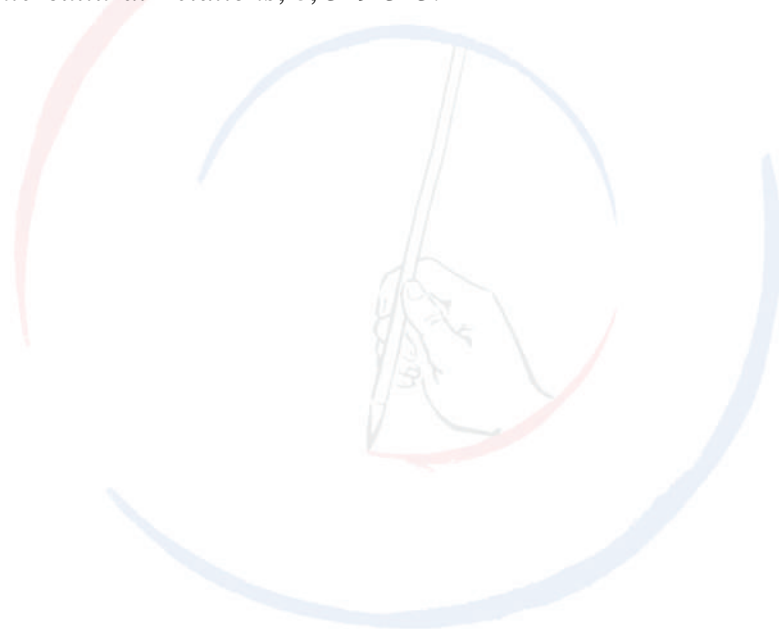
Appendix A

Table 1

A Comparison of the Medians and Correlations of Each item for Ethnic and Host Tendencies

	Items	Ethnic		Host		Correlation
		Median	SD	Median	SD	
1	Use Japanese/Portuguese without problem	5	1.05	2	1.43	.081
2	Good understanding of the politics and society of JP/BR	4	1.09	3	1.33	.169 *
3	Often eat JP/BR meals at home	5	0.97	3	1.38	-.148
4	When I eat out, I want to eat JP meal/other meal	4	1.22	3	0.97	-.437 ***
5	Have close JP/BR friends	5	1.1	3	1.54	-.016
6	It is possible to behave naturally around JP/BR individuals	5	0.97	4	1.23	.488 ***
7	Participate positively in gatherings with JP /BR	4	1.23	3	1.33	.217 *
8	I agree with getting married to a JP/BR individual	4	1.09	4	1.07	.518 ***
9	I perceive myself as JP/BR	5	0.79	2	1.15	-.311 ***
10	It is acceptable to have JP/BR citizenship	4	1.05	2	1.4	-.300 ***
11	I introduce myself as JP/am perceived as a Nikkei by surrounding people	5	1.18	3	1.38	-.131
12	I live following the JP and Nikkei / BR life-style	4	1.2	4	1.1	-.213 *
13	I celebrate JP and Nikkei /BR national holidays and anniversaries	2	1.33	3.5	1.19	.087
	Total	55.8	14.27	39.5	16.5	-.288

Note. JP = Japanese; BR = Brazilian. Eight items had significant relations with both ethnic and host items. Items 1, 5, and 13 had no relation. Ethnic items showed a high rate except item 13.

p < .05, ***p* <. 001

Appendix B

Questionnaire items (No involved items were excluded)

To all Japanese and Japanese-Brazilian participants, we would like to thank you for cooperation with this questionnaire. There are no mistakes or correct answers. Please answer as you find appropriate.

Basic representation:

Japanese: Defined as Japanese individuals who have stayed in Brazil for more than 3 months. These individuals were born and grew up in Japan before moving to Brazil and were living there with Japanese nationality.

Issei (first generation): Defined as individuals who were born and grew up in Japan, but then moved to and were nationalized as Brazilian.

Japanese-Brazilian: Issei and Brazilian-born Japanese descendants.

Ⅰ. **Demographic characteristics**: Choose one response for each question. If you choose "other" for Q6 and Q8, please complete details in the blank. You do not need to write your name.

1. Gender a) male b) female
2. Generation a) 20s b) 30s c) 40s d) 50s e) 60s f) 70s g) over 80s
3. Age at the time of travel a) under 10 b) 11–20 c) 21–30 d) 31–40 e) over 41
4. Length of residence a) 1–5 yrs. b) 6–10 yrs. c) 11–20 yrs. d) 21–30 yrs.
 e) 31–40 yrs. f) 41–50 yrs. g) over 51 yrs.
5. Future plans a) Permanent resident b) Return to Japan c) Undecided
6. Nationality a) Japan b) Brazil c) Other ( )
7. Marital status a) Married b) Unmarried
8. Please answer only if you are married, your partner is…
 a) Japanese b) Japanese-Brazilian c) Brazilian d) other ( )

Ⅱ. **For the following question, how much do you think each fits with you?**

(5-point Likert-type scale: 1 = completely disagree, 2 = disagree, 3 = neither, 4 = agree, 5 = completely agree)

1) I can talk comfortably in Japanese.
2) Including writing and reading, I can use Portuguese comfortably.

3) I am familiar with the politics, and society of Japan through Japanese people and TV.

4) I am well informed about Brazilian politics and society through Brazilian-magazines or newspapers.

5) I eat Japanese food as well as Western and Chinese cuisine, like typical Japanese family.

6) I often eat Brazilian food at home.

7) I want to eat Japanese meal when I go out alone.

8) I want to eat a meal other than Japanese food when I go out alone.

9) I have close Japanese and Nikkei friends.

10) I have close Brazilian friends.

11) It is possible to behave naturally when I am with Japanese and Nikkei people.

12) It is possible to behave naturally when I am with Brazilian people.

13) I participate positively in gatherings with Japanese and Nikkei people.

14) I participate positively in gatherings with Brazilian people.

15) Marriage between Japanese and Nikkei people is acceptable to me.

16) Marriage between Japanese/Nikkei and Brazilian people is acceptable to me.

17) I feel that I am Japanese.

18) I feel that I am almost no different from Brazilians.

19) Retaining one's Japanese citizenship is desirable

20) I don't mind obtaining Brazilian citizenship because I live in Brazil.

21) I tell surrounding people that I am a Japanese individual who was born and who grew up in Japan.

22) I think that I am indistinguishable from Brazilian-born Japanese-Brazilians to surrounding people.

23) I live following the Japanese life style.

24) I have adjusted to the Brazilian lifestyles.

25) I celebrate Japanese national holidays and anniversaries.

26) I celebrate Brazilian national holidays and anniversaries.

39) My life is a quite miserable.

40) Sometimes, I think life has no meaning.

41) I often feel sad without reason.

42) Sometimes, I feel that there is no hope and don't want to do anything.

43) I do not have fun or hope.

44) I often feel depressed without reason.

45) Sometimes, I feel depressed and want to be in bed all day long.

Role of Executive Function among Young Adults in Music and Non-Music Programs

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Abstract

Each aspect of human development; physical, psychological and social development across life span is a critical issue to many researchers to examine. During the emerging adulthood transitional period, a person is not adolescence but is also not yet fully adult. Hence, the word "young adults" is used to refer to this group under the study. Resulting from neural immatureness in prefrontal control areas, risky behaviors and problems can be found as threatening factors during this transitional period. As they are more independent and exposed to new things, attraction, stress, and risky environments, Executive Function (EF) has made itself important in self-controlling to cope with such distractions, solve problems and manage life's complexity. Thus, the importance of executive function must be addressed during this transition period. Several studies revealed the advantages of music training on various aspects including executive function improvement. Less is however known about the executive function and effect of music training on executive function during this young adulthood period development. This research aims to study the effect of music training on executive function among young adults studying in different studies programs particularly in Music and Non-Music Programs at university level. The Wisconsin Card Sorting Test (WCST) is used for the assessment of the executive function among the selected group. The results show that young adults in Music Program performed better on 2 of the WCST sub-scores (total correct and conceptual level response) when compared to young adults in Non-Music Program.

Keywords: Executive Function, Music and Non-Music Programs, Wisconsin Card Sorting Test (WCST), Young Adults

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1. Introduction

Each aspect of human development; physical, psychological and social development across life span is a critical issue to many researchers to examine. The transition period from adolescence to adulthood is defined as emerging adulthood, aged between 18 to 25 years old. During this stage of life, a person is not adolescence but is also not yet fully adult. University students can be categorized into this transition period. It is an experimentation and exploration period (Arnett, 2007; Santrock, 2011). Hence, the word "young adults" is used to refer to this group under the study.

The changes during this period are still associated with not only the biological but also behaviors. Resulting from neural immatureness in prefrontal control areas, risky behaviors and problems (Konrad, Firk & Uhlhaas, 2013) such as: psychiatric disorders, drug and alcohol use, smoking, conflicts within family relationships, incidence of unintentional injuries, violation, unplanned pregnancy and sexually transmitted diseases, can be found as threatening factors during this transitional development (Casey, Jones, & Hare, 2008; Steinberg, 2005; Spear, 2013). As they are more independent and exposed to new things, feeling, attraction, love, stress, different changes and risky environments (Santrock, 2011; Spear, 2013; Zarrett & Eccles, 2006), executive function (EF) has made itself important in self-controlling to cope with such distractions, solve problems and manage life's complexity (Blakemore & Choudhury, 2006). Thus, the importance of executive function must be addressed during this transition period.

EF is important to our life towards mental, physical, school, cognitive and social development (Diamond, 2013). It is the higher cognitive function set of inhibition, attention, working memory, and planning needed for goal-oriented behaviors (Anderson, 2001) and associated with the goal-oriented control function of prefrontal cortex (PFC) (Best, Miller, & Jones, 2009). PFC is the last brain area to reach maturation and has an influence on cognitive and affective processes and control of executive function. The major critical brain region of executive function development is in PFC including several networks across brain regions (Lenroot & Giedd, 2006). After examining several research studies on the executive function, it can be explained that the development of executive function emerges to develop in early childhood through adolescence and reaches the maturation during early adulthood (Best, Miller & Jones, 2009; Huizinga, Dolan & van der Molen, 2006; Runsáková & Rektor, 2012).

Several studies revealed the advantages of music training on various aspects. For example, music training has influences towards children's academic achievement (Young, Cordes & Winner 2013), abstract reasoning ability (Bilhartz, Bruhn & Olson, 1999; Forgeard et al., 2008), and listening skills (François et al., 2013). There are also influences on adults' language skill, emotions and cognition. Moreover, the studies on effect of music training on cognitive executive function report a better working memory and attention performance, in musicians group rather than non-musicians group (Miendlarzewska & Trost, 2014; Hannon & Trainor, 2011).

Interestingly, the existing research studies support the idea of music enhancement towards executive function throughout human lifespan. However, several researches have investigated on the preschool years since this is a period of the emergence of

executive function development (Espinet, Anderson & Zelazo, 2013). Less is however known about the executive function during this emerging adulthood period development.

Even though, music training can enhances this high-order function, the study of the influence of music training on executive function among university students is limited. Therefore, this study aims to fill this gab by studying the effect of music training on executive function among young adults studying in different studies programs particularly in music and non-music programs at university level.

This study also attempts to understand the effects and advantages of music training on executive function among university students. The findings would be useful for those interested in understanding these differentiations. The results of this study would be beneficial for researchers in the similar field to develop new ideas in educational program developments such as; creating better study programs for next generations, including music training as an extra-curricular activity and for those who look for a free elective course, leisure activity or an executive function intervention.

2. Method

2.1 Participants

The participants were undergraduate students from Music and Non-Music Program. These were the inclusion and exclusion criteria of this study.

Inclusion criteria
- Gender: Male & Female
- Within 18 to 25 years old (18 years 0 month and 24 years 11 months)
- Thai nationality
- Full time students
- Currently studying in the programs mentioned
- Both physically and mentally healthy
- Normal or corrected vision and hearing
- Consent to participate in the study
- Equal number of male and female participants

Exclusion criteria
- Exchange and visiting students
- Brain dysfunction
- Special children
- Mental disorder
- Those who do not meet the requirements

2.2 Instruments

2.2.1 The questionnaire

The questionnaire was developed to get background information, confounding variables such as age, gender, extra lessons, and hobbies as well as to categorize the subjects according to inclusion and exclusion criteria. The subjects were asked to fill in the questionnaires before taking the test.

2.2.2 The Wisconsin Card Sorting Test

The Wisconsin Card Sorting Test (WCST) computer version is used for executive function assessment. It consists of 4 stimulus cards and 128 response cards. They are different in forms (crosses, circles, triangles or stars), colors (red, blue, yellow or green), and number of figures (one, two, three or four). Before the test, the instruction will be given to every subject. The subjects are asked to match each consecutive card shown on the screen to the stimulus card whichever one they think matches. After each match, the subjects get feedback whether it is "Right or Wrong" from the screen and the sound. They are not given any details or indication of the (correct) sorting principle. The sorting principle will be changed (to other category) without prior information.

2.2.3 Research design / Measure/ Data collection procedure

The undergraduate students in each of the two selected study programs were recruited and divided into two groups; Music Program group and Non Music Programs group and only those that fulfill the requirements were chosen to participate in this study. The consent forms were given to the selected subjects. The questionnaires were distributed and WCST (see 2.2.2) was conducted.

3. Results and Discussions

The total number of subjects in this study included 40 young adults consisting of 20 students each from Music and Non-Music Programs. 50% (n=20) of the participants in both the programs were male and another 50% (n=20) were females. The age group of young adults in Music Program group ranged from 18 years and 4 months to 23 years and 5 months (Mean=20.20 SD=1.17). As for Non-Music Program group, they ranged between 19 years to 24 years and 8 months (Mean= 22.20, SD=1.88).

As for the past experience with musical instruments for the Music Program group, all of them have played music instruments for more than 4 years (Min=5, Max=17). 10% of them started playing music at the age of less than 5 years. 40%, 20%, 25% started playing music between the age of 5 and 7; 8 and 10; and 11 and 13 years old respectively. There were only 5% of the participants that started playing music at the age of 14 years and after.

It was seen that 10% of them can play only Thai musical instruments, 85% of them can play only Classical musical instruments and 5% can play both types of musical instruments. 85% of the subjects were professionally good at playing any Classical musical instruments where as 15% was good at playing Thai musical instruments. For the frequency of playing music, 50% of the total subjects in Music Program group played music every day. However there were 25%, 15% and 10% of the subjects that played music once or twice a week; 3-5 times/week; and once/twice a month or longer respectively. The number of hours of playing music each time ranged from 10 minutes to 8 hours (Mean=2.50, SD=1.94).

The Executive Function has been assessed in this research by the Wisconsin Card Sorting Test (WCST). The scores on the WCST between these two groups were analyzed using the independent sample t-test. This paper analyzed the scores that are presented in raw scores form only.

Table 1: Standard means and standard deviation for WCST sub-scores

WCST sub-scores	Group		p-value
	Music Program Group (n=20)	Non-Music Program Group (n=20)	
Total Correct	74.55 (10.51)	68.90 (7.77)	0.030*
Conceptual Level Response	70.60 (9.13)	66.20 (6.88)	0.046*

Note: *p<0.05, one-tailed

As shown in Table 1, young adults in Music Program Group had significantly higher scores on 2 of the WCT sub-scores when compared to young adults in Non-Music Program Group; Total Correct and Conceptual Level Response at an alpha level of 0.05 (p.<0.05). However, there were no statistically significant differences found between young adults in Music Program Group and Non-Music Program Group on other WCST sub-score. The mean score of young adults in Music Program Group and Non-Music Program Group for the sub-score on Total Correct were 74.55 and 68.90 respectively. For Conceptual Level Response, the mean score of young adults in Music Program Group and Non-Music Program Group were 70.60 and 66.20 respectively.

Figure 1: Comparison between two groups on the WCST sub-scores
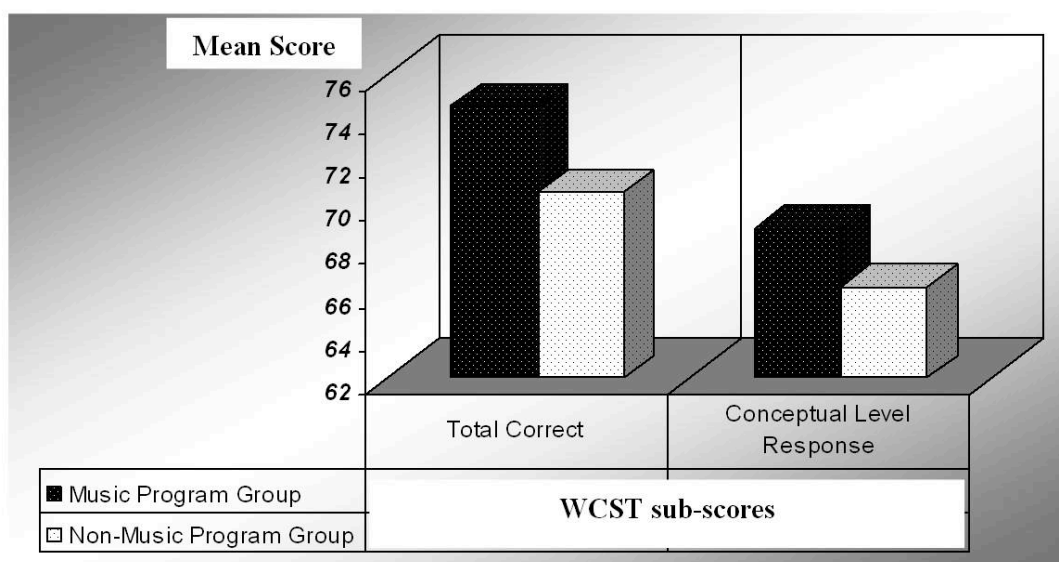
According to the WCST sub-scores results, it can be revealed that higher mean scores on 2 of the WCST sub-scores (Total Correct and Conceptual Level Response) of those young adults in Music Program Group were projected to perform better on the

above mentioned sub-scores when compared to young adults in Non-Music Program Group as shown in **Figure 1**. It can be indicated that young adults in Music Program had a better performance in "Executive Function" including performances related to shifting, inhibition, working memory, planning/organization and problem solving.

This present finding is consistent with the previous studies on the influence of music experience on executive function and also found some slight differences which will be discussed in the following section.

Previous researchers have found that music training has an impact on cognitive executive function in adolescent musician group than those without music training. Even though the different executive function assessment instruments (Simon task, Stroop task, WCST, Iowa Gambling Task) were used in the previous studies, the findings presented that musician group had a better performance than the other groups (Bialystok & Depape, 2009; Usa, 2012; Anuch, 2012).

This study found significantly higher mean score on Conceptual Level Response in Music Program group as evident in a previous study in Thailand (Usa, 2012). Nevertheless, the significantly higher mean scores differences on the sub-scores on Perserverative Response and Perseverative Error were not found between Music Program Group and Non-Music Program Group but were evident in the earlier research done in Thailand (Usa, 2012).

4. Conclusion

This research analyzed the effect of music training on executive function among young adults studying in different programs mainly in Music and Non-Music Programs at the university level. The undergraduate students in each of the two selected study programs were selected though questionnaires distributed and a total of 40 students that met the criteria were recruited. The Wisconsin Card Sorting Test (WCST) was conducted for the assessment of the executive function. The results show that young adults in Music Program performed significantly better on 2 of the WCST sub-scores; Total Correct and Conceptual Level Response, when compared to young adults in Non-Music Programs. Higher scores on these 2 WCST sub-scores are relevant in projecting that the person has better personal abilities to adapt with changing situations, thus reflecting good executive function. This study suggests that a better understanding of executive function throughout one's lifespan is beneficial to the study of human development.

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References

Anderson, V. (2001) Assessing executive functions in children: biological, psychological, and developmental considerations. *Pediatr Rehabil*, 4(3):119-36.

Anuch, S. (2012). *The influence of music training on decision making in Thai Adolescence* (Master's dissertation). Mahidol university, Nakornpathom.

Arnett, J. J. (2007). Emerging Adulthood: What Is It, and What Is It Good For? *Child Development Perspectives*, 1(2):68–73.

Best, J. R., Miller, P. H., Jones, L. L. (2009). Executive functions after age 5:*Changes and correlates*, 29(3):180–200.

Bialystok, E., Depape, A. M. (2009). Musical expertise, bilingualism, and executive functioning. J Exp Psychol Hum Percept Perform, 35(2):565-74.

Bilhartz, T. D., Bruhn, R. A., Olson, J. E. (1999). The Effect of Early Music Training on Child Cognitive Development. *Journal of Applied Developmental Psychology*, 20(4):615-636.

Blakemore, S. J., Choudhury, S. (2006). Development of the adolescent brain: implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry*, 47(3-4):296-312.

Casey, B. J., Jones, R. M., Hare, T. A. (2008). The adolescent brain. *Ann N Y Acad Sci*, 1124: 111–126.

Diamond, A. (2013). Executive functions. *The Annual Review of Psychology*, 64:135-168.

Espinet, S. D., Anderson, J. E., Zelazo, P. D. (2013). Reflection training improves executive function in preschool-age children: behavioral and neural effects. Dev Cogn Neurosci, 4:3-15.

Forgeard, M., Winner, E., Norton, A., Schlaug G. (2008). Practicing a musical instrument in childhood is associated with enhanced verbal ability and nonverbal reasoning. *PLoS One*, 3(10).

François, C., Chobert, J., Besson, M., Schön, D. (2013). Music training for the development of speech segmentation. *Cereb Cortex*, 23(9):2038-43.

Hannon, E. E., Trainor, L. J. (2011). Music acquisition: effects of enculturation and formal training on development. *Trends Cogn S*ci, 11(11):466-72

Huizinga, M., Dolan, C. V., van der Molen, M. W., (2006) Age-related change in executive function: developmental trends and a latent variable analysis. Neuropsychologia, 44(11):2017-36. Epub 2006 Mar 9.

Konrad, K., Firk, C., Uhlhaas, P. J. (2013). Brain development during adolescence. *Neuroscientific Insights Into This Developmental Period*, 110(25):425-31.

Lenroot, R. K., Giedd, J. N. (2006). Brain development in children and adolescents: insights from anatomical magnetic resonance imaging. *Neurosci Biobehav Rev*, 30(6):718-29.

Miendlarzewska, E. A., Trost, W. J. (2014). How musical training affects cognitive development: rhythm, reward and other modulating variables. *Front Neurosci*, 7: 279.

Runsáková, Š., Rektor, I. (2012). The Neurocognitive Networks of the Executive Functions. Advances in Clinical Neurophysiology. *Advances in Clinical Neurophysiology*. InTech.

Santrock, J. W. (2011). *Life-span development*. (13th ed.). New York: McGraw-Hill. Spear, P. L. (2013). Adolescent neurodevelopment. *Journal of Adolescent Health*, 52:S7-S13.

Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends Cogn Sci*, 9(2):69-74.

Usa, B. (2012). *The influence of music training on executive function in Thai Adolescence* (Master's dissertation). Mahidol university, Nakornpathom.

Young, L. N., Cordes, S., Winner E. (2013). Arts involvement predicts academic achievement only when the child has a musical instrument. *Educational psychology*, 1-13.

Zarrett, N., Eccles, J. (2006). The passage to adulthood: challenges of late adolescence. *New Dir Youth Dev*, 111:13-28,7.

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Academic Adjustment and Sense of Coherence of the Muslim Students from the Three Southernmost Provinces of Thailand: Qualitative Research

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Abstract

This qualitative study examined the experiences of academic adjustment and sense of coherence of the Muslim students from the southernmost provinces of Thailand. Participants were 12 undergraduate Muslim students from the southernmost provinces of Thailand. They were selected purposively. Instruments included the sense of coherence checklist and a interview guideline. Data were collected by the researcher through in-depth interview and analyzed through grouping of similar themes. The results reveal that three main themes. First themes, the causes of academic stress leading to adjustment problem were language, coexistence in society between men and women, and learning. Second theme, two coping strategies were used. One was a problem - focused coping strategy through positive energy creating and changing them manually to be accepted. The other was social support seeking strategy from family and friends, and faith-based practice. Third theme, sense of coherence consisted of being open–minded, regarding problems as serious matters, and learning sense of coherence from their suffering lives. The finding provided insight into Muslim students' experiences in their adjustment concerns and sense of coherence.

Keywords : Adjustment, Sense of coherence, Muslim students

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Introduction

In the past decades, substantial attention has been given toward understanding the higher incidence of psychological distress found among university students. In particular, academic stress while studying can be one important phenomenon in student's life. At this level of education many changes gradually emerge, especially the changes in status and educational institution; from school children to university students (Herzig, Roysircar, Kosyluk&Kosyluk& Corrigan, 2013). In a school year, students are closely supervised whereas in a university students are geared to study independently and make their own decisions. Being with other students in a university's multicultural society differs from staying with family (Tangnoy, 2012).

Above all, students at a tertiary education are those in their late teen stage in which they are facing with changes and a big adjustment. This is the period of learning, developing, and adjusting themselves to match their age, role and responsibility. From the said issues, this stage of life becomes a difficult period full of problems caused by themselves, surrounding people, and the society (Kotrajaras, 2002).

In leading one's life effectively and successfully, a person needs sense of coherence; the ability to perceive the world harmoniously in terms of thoughts and emotions. It is the ability to perceive the world as it is and believe that all phenomena in life are caused by himself and the environment. They can be solved and it is possible to find support from other sources (Chaiyapan, 2013). The ability to confront with any problems in life and the ability to cope with difficulties successfully consist of three factors; the ability to understand the problem, the ability to cope with the phenomena and the ability to define the problem. A person with sense of coherence can adjust himself socially, cope with problems effectively, and be successful in life (Antonovsky, 1993; Rothmann, Steyn, &Mostert, 2005; Yusuke, Shinichiro &Tadahiro, 2009).

Apart from sense of coherence, the pattern of problem experiencing of a person is another important factor in coping with academic and personal difficulties. The pattern of problem experiencing is the way of self-adjusting and stress experiencing. How much the success is depends on his ability. This attempt occurs continuously to keep balance of the mind (Riolli & Savicki, 2010). When a person faces with the phenomenon and finds that it affects his balancing state, he will use his thoughts and reactions to cope with the problem or his suffering feelings affected by stresses (Lazarus &Folkman, 1984).

The 2013 Songkhla Rajabhat University's Annual Report on student statistics showed that the majority of the students, 62.15 % , were Buddhists whereas 37.66 % were Muslim students (Office of Academic Promotion and Registration, 2014). Differences in religion and student's life in a university affect students' self-adjustment, especially the students from private religious schools. These students have their own culture in living their lives, for example, eating habit, activities, language use, and dressing style (Yosoh, 2013). Muslim students have their own cultural identity. They use the Malayu dialect in daily communication. They will dress themselves as guided by Islamic religion. They have to pray for five times a day and must eat halal food only (Suwannakho, 2010).

Cultural adjustment is an important issue of Muslim students when they move to live in another culture which is different from theirs causing problems such as stresses and worries. So, they need to learn to adjust themselves to live peacefully. Such adjustment would secure their ways of life and make them happy during the period of study positively affecting academic achievement. If they are able to cope with difficulties, they will be able to lead their lives and grow up to become competent and successful adults (Abdullah & Sulaiman, 2014).

However, there are limited numbers of in-depth study regarding self-adjustment of Muslim students from the southernmost provinces of Thailand. For this reason the researcher is interested in looking into stress dealing experiences, problem coping, and sense of coherence of Muslim students from three southernmost provinces of Thailand. The results of the study will provide guidelines for the prevention of problems and assistance for the students to perform good adjustment and have good state of mind. Moreover, they will provide guidelines for teaching and learning. They can be used as information for improving quality of education and supporting the students to be successful in their study.

Methodology

This study was conducted with a phenomenology qualitative research design, as detailed below:

Participants:

12 Muslim students (5 males,7 females) from three southernmost provinces of Thailand (Pattani, Yala and Narathiwat) were chosen purposively through the Purposive Sampling. They were reached through the gate keeper. Inclusion criteria (1) those whose hometowns were in three southernmost provinces enrolled at Songkhla Rajabhat University, (2) those who were experiencing stresses and adjustment when moving to study in a university, (3) those who passed the self-assessment checklist, and (4) those who were willing to participate in the study. Details were shown in the table below.

Participants	Age (year)	Gender	Year of study	Hometown
1	19	Male	1	Narathiwat
2	19	Male	1	Narathiwat
3	19	Male	1	Yala
4	20	Female	2	Pattani
5	21	Female	3	Narathiwat
6	20	Female	3	Yala
7	21	Female	3	Narathiwat
8	22	Male	4	Pattani
9	21	Female	3	Yala
10	21	Male	3	Yala
11	20	Female	2	Narathiwat
12	22	Female	4	Narathiwat

Instrument: The Sense of coherence checklist adapted by the researcher from Sense of coherence evaluation form based on Antonovsky's view (1993). The checklist and

interview guideline developed by the researcher were checked by an expert panel for content validity and corrected accordingly before application

Data Collection: The researcher contacted the gatekeepers to recruit the qualified participant. Then, the appointments with the participants were made to provide information about the study and their rights to participate in the study. Those who were willing to participate in the study were asked to sign the consent form and completed the checklist. After that, the students who passed all the criteria on the checklist were invited and interviewed once, each for about 1 hour.

Data Analysis: After verbatim transcription of the interview tapes, the scripts were analyzed by coding messages with similar meanings together. Then those with the same themes were grouped into subcategories and categories. Trustworthiness of the validity of analysis on the findings, interpretation, and summary from supportive data were achieved through external auditing conducted by an experts on qualitative research.

Results

Five main themes emerged from the findings as detailed below

Theme 1: Causes of stress. There were three causes of stressful situations faced by the informants; language, coexistence in society between men and women, and learning.

1.1 Language: The informants had experienced stresses caused by their use of Thai language more than the students from other provinces. This was because of the difference in language use. Muslim students used the Malayu dialect in daily communication and at schools in their hometowns. As a result, their communication in Thai language was unclear and they were unable to comprehend deeply enough. Problems caused by inability to use the Thai language included poor understanding of lectures, inability in reading critically, being not brave to share ideas, and being shy to talk and report. These problems led to stress problems in learning. Also these students did not understand local dialects of southern Thailand used by most Buddhist students creating barrier in communication and friendship building. This could be seen in the scripts below.

> *"When I'm with Buddhist friends, I don't understand what they're saying. It makes me feel uneasy and depressed. I can't speak Thai fluently, so I don't want to study because I'm afraid that they will make fun of me. I'm embarrassed. Whenever the lecturer asks me to report in front of the classroom, I won't go to class. I want to stay home." (ID 1)*
> *"In general when I'm at home or at school, I rarely speak Thai. Sometimes I do because the teacher asks everybody to speak Thai. Everyone isn't allowed to use Malayu. When I come to study here, I have to speak Thai only. I speak Thai with unclear pronunciation, using wrong and strange accent. When I speak Thai, my classmates don't understand it. I beat around the bush. Most of all when the lecturer asks everyone to share ideas, I don't know what to say. I can't arrange words. When I do a presentation, my accent is wrong and strange. Nervousness makes me*

unable to speak. It makes me feel unconfident to present. When I meet new friends who speak dialects of southern Thailand, I can't understand, especially those who speak fast." (ID 4)

1.2   Coexistence in society between men and women: Most of the informants were from private religious schools (pondok) where male students and female students did not do activities together. Activities were separated for men and women as directed by religion no matter talking, teasing, being together out of sight, and touching. These manners are allowed after marriage only. When Muslim students moved to study in a university where male and female students were asked to do activities together, they felt stressful and were under pressures while interacting with different gender.

"I feel at first so stressful because I come from a religious school and I never learn with male students. I've never been familiar with men. I've never touched a man. The religion doesn't allow us to be friend with men. When I was a first year student and was asked to do a "BOOM" activity, I tried to go away from it or avoid touching male students but failed. Men were on both sides and it made me feel worried." (ID 6)
 "At a religious school men and women are separated to do activities. When I'm here, everybody was asked to join activities together. It is forbidden not to touch a person of different gender. There was a pressure caused by senior students and we're afraid of them. We were forced to stand near female friends and we felt considerate to them. We were stressful and we thought it was a sin." (ID 11)

1.3   Learning: Most of the informants completed higher secondary education from pondoks where religion teaching received more attention than other subjects. This was different from public schools or universities where academic subjects were taught and learned. The difference in focus of teaching caused stress problems since they had less academic foundation affecting poor learning and inability to link knowledge with the advanced level leading to poor achievement.

"I completed my study from pondok, I have less knowledge than other students who are from public schools. I'm afraid that I don't have enough foundation and I'll be left behind. Once I was stressful because I had never received low marks or failed the exam. I cried several times and tried to forget it, but I couldn't." (ID 3)

 "We come from religious schools, so we lack academic foundation. At the pondok there were two streams of study. In the morning we studied religion and Arabic language. In the afternoon we learned academic subjects. We were assigned to do a report and a presentation but we didn't understand the contents in the same way as we were taught by teachers. In a religious school academic subject learning was not that serious. " (ID 10)

Theme 2: Stress problem coping strategies.

2.1 Problem-focused coping: In coping with stress problems, the informants tried to find information related to problems, solved the problems straightaway, or adjusted themselves such as changing their attitude, planning and setting goal in problem solving, using reasons related to religion and beliefs to explain stressful situations, being prepared to face with upcoming events. These actions were reflected in the form of being obedient to order of Allah to accept changes. The analysis revealed the following sub themes.

2.1.1 Problem coping: The informants tackled the causes of problems and planned to cope with problems by adjusting themselves first, followed by practicing different skills and describing the causes of problems to related persons in order to find solutions.

> " Every time I have problems, I'll try to be patient and conscious. I try to discover causes of problems and cope with them. " (ID 6)
> "I'm not good at using the language. I don't know some words. I don't know which Thai words are used. I try to speak Thai when I talk to whoever I meet except for my family members. When I'm with my Buddhist friends, I have to speak Thai. If I don't, my friends won't understand. It's a good practice and I can learn Thai language more. " (ID 11

2.1.2 Positive energy creating: The informants coped with stress problems by themselves to keep balance of their emotion and feelings. They motivated themselves by using good utterances, thinking and actions.

> "I never give up. I try to motivate myself because I want to be a smart teacher. I work hard to improve my weaknesses, but it takes time. I try hard for my future and my family. At present I try to change the way I speak by practicing in front of the mirror, asking friends if they understand what I'm saying. Now my language problems are reduced. One day I'll become an effective teacher."(ID 8).
> "When I do my best, I'll encourage myself. I always say to myself that an examination is a common thing. We can do it or we can't. Don't get stressful. If I do my best, it's perfect and Allah knows my attempt." (ID 12)

2.1.3 Changing themselves to be accepted: The informants learned to change themselves to live their lives. Apart from changing themselves in learning, they changed themselves in living with new friends, friends from other cultures, and reordering their ways of life while living in a new territory.

> "We have Buddhist friends because we want to know what's going on outside our society. If we're sent to work in schools in other provinces, we'll know and we can answer the questions." (I ID 3)
> "I try to adjust myself and talk to Muslim students who're not from three southernmost provinces. They can speak southern dialects. I ask them to teach me. I've spent long time learning Thai and now I know many

things. I can speak Thai more fluently. I sometimes speak with incorrect pronunciation, but I try to improve all the time."(ID 12)

2.2 Social support seeking: In problem coping, the informants tried to seek any forms of assistance no matter information, emotional support, and encouragement family members, friends, and religion. All these things enable them to cope with problems and adjust themselves. They are detailed in the following parts.

2.2.1 Family and friends as key inspiration: When stress problems occurred, the informants looked for social support to lessen their stresses. Family and friends were good sources of assistance and encouragement. They served as consultants who walked hand in hand. They helped to find ways to overcome the problems.

"Friends help me. We learn together and they make me feel encouraged. All these things make me successful today." (ID 2)

"Every time I have an exam or do a presentation, I'll call my parents to let them know. I ask them to pray for me. When I come out of the exam room and I can't do it well, I'll call to tell them that I can't do it. They will comfort me by saying "Don't worry. If you do your best, it's perfect really."" (ID 9)

2.2.2 Faith-based practice: When the informants faced with stresses and pressures, the one thing that empowers them to stand up to the problems is religion. They would pray and accept the result that was regarded as a test from Allah. They lived their lives through faith-based practice which made them motivated to confront with difficulties.

"When I have problems, I'll listen to Uztas who teaches religion on YouTube. I'm so proud that I don't change myself to follow the trends. I get inspired by those who are at home. They encourage me and look after me very well. " (ID 7)

"When I cope with pressures, I feel stressful. I think all the time that this is the test from Alla who wants us to be patient and I accept what Allah wants it to happen. What heal me during that period is Al Koran reading. It makes me feel released." (ID 9)

Theme 3: Sense of coherence.

This is an ability of to understand the harmonious world, the recognition of the world in both thoughts and emotions. The world is perceived through reality, and a person must believe that all events are caused by people and the environment. Everything can be explained, predicted, and solved by ourselves. Assistance and support can be found, and everything can be done successfully by energy.

3.1 Being open-minded and regarding problems as serious matters: Being open-minded and regarding problems as serious matters are the changes from inside of the informants which is labeled as sense of coherence. This phenomenon leads to the state of open-mindedness, flexibility, and readiness in learning cultural difference. It means

a person is optimistic and able to immerse himself in the society with diverse languages and religions in order to live together in harmony.

"We have to be patient, open-minded, and prepared to solve the problems. As we interact with friends, we must learn to understand them. We come from different parts of the country and we adopt different habits. So, we have to accept one another. As soon as we understand and accept the differences, we will change ourselves."   (ID 8)

"I try to understand that each religion is different. Rituals in Buddhism are important for Buddhists. Some rituals or cultures are not in line with my religion such as touching between men and women. Our distressful condition teaches us many things. We understand that they believe in particular things and have particular reasons. When my friends ask me why we aren't allowed to do this and that, I try to explain to make both of us understand clearly." (ID 12)

3.2 Learning sense of coherence from suffering lives: Facing with stresses made the informants learn suffering lives. However, such misery also served as a "teacher" enabling them to discover, grow up, become patient and strong and readjust perceptions. The stresses they had experienced become a lesson guiding them to learn sense of coherence.

"All problems teach us many things; endurance and attempt, for example. Most of all, they make us think of Allah every time, and we realize the value of the religion. The religion is very important because it reminds us of being Muslim. It tells us what is right and what is wrong, and it tells us to do the right thing" (ID 3).

"All situations I've experienced make me proud in terms of coexistence with other people and learning achievement. Although there are a lot of difficulties, I try hard to study. Studying is very important to me. My mom told me that she and dad had no property to give to me, but they pushed me to study. This is the only thing mom and dad can do to support me. It makes me grow stronger to overcome all the problems." (ID 9)

Discussion

This study reflects experiences in self-adjustment in learning and sense of coherence of the Muslim students from three southernmost provinces of Thailand. This group of students told about the experiences causing them to face with stresses and difficulties in adjusting themselves in language, coexistence in society between men and women, and learning. Most of them felt nervous when they talked to new friends and did the presentation as affected by the use of Malayu dialect in daily communication and disadvantageous learning background. When they continued their study in a university, they had to adjust themselves in terms of learning habits and the use of Thai language. This resulted in unclear speaking and being made fun of. Such situations caused them to avoid speaking and sharing ideas in the classroom.

Also failure to understand southern Thai dialects led to barrier in communication and friendship building with other students. Abdullah & Sulaiman (2014) and Novera (2004) revealed about Malaysian Muslim students who studied in Australia that the students from other cultures had to change themselves to cope with daily lives, their study, the use of language that was different from those of their own, relationship building and the changing ways of life. A study conducted by Zhiyuan (2012) on self-adjustment of Chinese students who had difficulties using Thai language while studying in Thailand found that language was a key factor in adjustment process. Failure to understand local dialects tended to cause a person to face with problems from the very first step when he was exposed to a new culture. It became more difficult to adjust himself if the local language was not an international one.

The informants reflected that they had to cope with their stressful mind in adjusting themselves. They began by accepting the reality and giving reasons to explain the solutions in order to accept pressures. They maintained the balance of emotion by using their beliefs to describe the phenomena and stresses to relieve conflicts and unhappiness. This made them prepared to accept the situations and adjust themselves which was reflected in the form of accepting the changes regarded as the desire of Allah.

 One of the informants stated that "if we used reasons and patience to solve problems we're facing, we could overcome all difficulties smoothly." (*ID* 2). For positive energy creating and changing themselves to be accepted, the informant explained that "I never give up. I try to motivate myself because I want to be a smart teacher. I work hard to improve my weaknesses, but it takes time. Today I may speak Thai with unclear pronunciation, but I hope one day I can speak better. I try hard for my future and my family. At present I try to change the way I speak by practicing in front of the mirror, asking friends if they understand what I'm saying, and asking friends which words I need more practice. Now my language problems are reduced. One day I believe I'll become an effective teacher."(*ID* 8).

Next, the informants viewed social support seeking was a key encouragement and the faith-based practice could make them overcome stressful mind and able to adjust themselves. One of them said "Every time I have an exam or do a presentation, I'll call my parents to let them know. I ask them to pray for me. When I come out of the exam room and I can't do it well, I'll call to tell them that I can't do it. They will comfort me by saying "Don't worry. If you do your best, it's perfect really." (*ID* 9*)* " I look for supporters and close friends who can listen to my problems. Fortunately, I've got a close friend who is Buddhist. She listens to my problems all the time. She makes me relieve, not too much stressful" (*ID* 4).

These samples were relevant to the findings in the report by Radzi, Ramly, Ghazali, Sipon & Othman (2014) which explained that a person would seek social support for emotional reason. That is, he needs love, sympathy, encouragement, and soothing words, from other people. A person might also seek social support for instrumental reason. That is, he wants to know information, or guidelines in problem coping from experts or those who share same experiences. This includes turning to religion. This means a person will use religion as a mind comforter when facing with stresses by praying, reciting the Holy Book.

A study by Aflakseir (2012) also supports these research findings. It points out that religious beliefs and social support were the strategies that helped a person to cope with the crisis more effectively than other methods.

This was because these students have remained in the situation that they lacked balance of mind caused by oppressing misery. So, family support and faith-based practice turned to be strategies used to heal their own mind. One informant explained "When I have problems that make me stressful and I can't talk to people, I'll pray and ask Allah for blessing words that guide me to solutions and reduce all stresses and problems. I'll read or listen to Al Koran for a peaceful mind" (*ID* 2)

One interesting issue found in this study is a discovery of the growth of mind of Muslim students after experiencing difficulties in self-adjustment. This shows relative condition between sadness and self-adjustment of Muslim students leading to improvement. It reflects the development of strong sense of coherence in their mind. It is a lesson obtained from the changes and self-adjustment of Muslim students. These experiences direct them to adopt patience and endurance as shown in the informants' words. "All problems teach us many things; endurance and attempt, for example. Most of all, they make us think of Allah every time, and we realize the value of the religion. The religion is very important because it reminds us of being Muslim. It tells us what is right and what is wrong, and it tells us to do the right thing" (*ID* 3). "Every problem teaches us to be strong and know that we're growing'" (*ID* 1).

Last but not least, we can see that the key turning point in adopting sense of coherence of Muslim students starts from self-adjustment through problem coping, obedience, and acceptance of the problems. They focused on coping with problems and by doing this they acquired sense of coherence. This is relevant to a research report by Wangsawat, Paktoob & Chaimongkol (2554) which investigated sense of coherence of teenagers in three southernmost provinces of Thailand. The study found that teenagers in those provinces had the mean scores of sense of coherence in terms of ability to understand, coping strategies, and regarding problems as serious matters, at a slightly high level. It could be explained that teenagers were those who loved to learn new things, paid more attention to environment, and used reasons to consider phenomena. Experiences from younger ages made them learn and find more ways in problem solving. Teenagers were able to develop sense of coherence to a higher level. As their hometowns were in dangerous areas, they knew and sometimes had experienced the violence over there. Thus, they possessed life skills and strategies to cope with continuing unrest situations. As time went by, they learned more and developed more skills in coping with such situations (Jaeasae, Suttharangsee & Leardpaiboom, 2008).

Conclusion and Suggestions

This study revealed problem coping experiences of Muslim students from three southernmost provinces and their success within the cultural context of Thai society. The results reflect difficulties faced by Muslim students in their self-adjustment and learning. These phenomena affect their ways of life and their study, and may delay their growth. The findings indicated that problem coping strategies started from awareness of reality through making attempts to solve the problems, creating positive energy, changing themselves to be accepted by friends and the society, and seeking

social support from family and friends. Another source of power that made them have mental and emotional stability was faith-based practice and Allah. Such stability enables them to change and improve themselves to become mature and mentally strong leading them to adopt sense of coherence.

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References

Abdullah, S.S., & Sulaiman, H. (2014). Academic Adaptation: The Experience of Malay Muslim Postgraduate Students. *Journal Pendidikan Malaysia*, 39(1), 69-75.

Aflakseir, A. (2012). Religiosity, Personal Meaning, and Psychological Well-being: A Study among Muslim Students in England. *Pakistan Journal of Social and Clinical Psychology*, 10(1), 27-31.

Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social Science Medicine Journal*, 36, 725-733.

Che-asae,R., Suttirangsi,W., Jaroenwong & Togani 2009

Herzig, B.A., Roysircar, G., Kristin, K. A., & Corrigan, P. W. (2013). American Muslim College Students: The Impact of Religiousness and Stigma on Active Coping. *Journal of Muslim Mental Health*, 7(1), 33-42.

Tangnoy, K. (2012). Students Satisfaction Towards of Student Activities at Suan Sunanaha Rajabhat University. *Research and Development Journal*, 4, 51-59.
Lazarus, R.S., & Folkman, S. (1984). Stress, appraisal and coping. New York Springer- Verlag.

Chaiyapan, M. (2013). Sense of coherence and coping strategies to solve the working stress. *Princess of Naradhiwas University Journal*, 5(3), 151-160.

Yusoh, M. (2013). The Effects of Group Counseling with Reality Therapy Approach on Cultural Adjustment in Muslim Freshmen, Thaksin University, Songkhla Campas. Master of Arts in Counseling Psychology. Thaksin University.

Suwannakho, N. (2010). The Adjustment of The First Year Undergraduate Students at Naresuan University. Master of Education Degree in Higher Education. Srinakharinwirot University.

Novera, I.A. (2004). Indonesian Postgraduate Students studying in Australia: An Examination of their Academic, Social and Cultural Experiences. *International Education Journal*, 5(4), 475-487.

Office of registrar. (2014). Statistics of students undergraduate of Songkhla Rajabhat University. Retrieved October 16, 2014, from http://regis.skru.ac.th/RegisWeb/webpage/ information_std/ std1-2557.pdf

Radzi, H. M., Ramly, L. Z., Ghazali, F., Sipon, S., & Othman, K. (2014). Religious and spiritual coping used by student in dealing with stress and anxiety. *International Journal of Asian Social Science*, 4(2), 314-319.

Riolli,L., & Savicki,V. (2010). CopingEffectiveness and Coping Diversity UnderTraumatic Stress. *International Journal of Stress Management*, 17, 97-113.

Zhiyuan, R. (2012). A study of cross-cultural adaptation of Chinese students in Thailand: Case study Burapha University. *Journal of Humanities and Social Sciences Burapha University*, 20(34), 185-201.

Jaeasae, R., Suttharangsee, W., & Leardpaiboom, J. (2008). Factor influencing stress management behaviors of Thai Muslim high-school adolescents in three border provinces of Southern Thailand. Journal of Mental Health of Thailand, 13(2), 68-77.

Rothmann.S.,Steyn,L.J., & Mostert .K. (2005). *Job stress, sense of coherence and work wellness in an electricity supply organization*. [Online].Available from: http://www.ianrothmann.com [November,23,2010].

Kotrajaras, S. (2002). *The relationship between parenting style and personal behavior teenage of Thailand*. Bangkok : Chularlongkorn University.

Wangsawat, T., Phaktoop, M., & Chaimongkol, N. (2011). Sense of Coherence of Adolescents in The three provinces along Southern border of Thailand. *Princess of Naradhiwas University Journal*, 3(1), 1-15.

Yusuke,T., Shinichiro. S., & Tadahiro .U. (2009). The association of sense of coherence and coping profile with stress among research park city workers in Japan. *Journal of Industrial Health*, 47, 664–672.

An Analytic Study on the Therapeutic Boundary between Counseling Psychologist and Sexual-Abused Children

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1. Introduction

Child sexual abuse has the most serious and lasting effects on child development amongst all types of childhood trauma (Schroeder & Gordon, 1991). Such trauma disrupts victims' conceptions of both physical and mental boundaries, causing victims to be very sensitive towards and easily hurt by blurred boundaries in relationships later in life (Armsworth, 1989). Whether the victim perceived potential harm with vigilance and adaptation, or with dissociation and early-year trauma presented in the subconscious minds, the conception of boundaries will still be an issue of significance in therapy (Pearlman & Saakvitne, 1995).

Researchers find that victims experience conflicted feelings such as tension, disruptions and the urge to form connections when negotiating boundaries within interpersonal relationships, including their interactive relationships with counseling psychologists. These findings prompted researchers to wonder how counseling psychologists perceive the issue of boundaries. What kind of strategies do they use in handling the issue? If the interactions between counseling psychologists and their clients are the basis for their clients' corrective emotional experience, how do counseling psychologists react when their clients experience conflicting emotions during counseling sessions? In the perception and transformation of boundaries, what is the interview progress that is beneficial in decreasing the clients' level of anxiety within interpersonal relationships?

Therefore, this study serves the following two purposes: 1) to investigate the kinds of therapeutic boundaries perceived by counseling psychologists within their relationships with their clients, and; 2) to illustrate how counseling psychologists interpret therapeutic boundaries during therapy sessions and how they utilize said boundaries in facilitating the therapy's progress.

2. Literature Review

The most commonly quoted definition of the term "sexually abused child" is one suggested by Finkelhor (1979). It states that child sexual abuse refers to any involuntary sexual contacts perpetrated on 1) a child aged 12 or below by someone who is his/her senior by 5 or more years, or; 2) a teenager aged 13 or above by an adult who is his/her senior by at least 10 years.

Sgori (1988) raised the issue called the "Damaged Goods" syndrome in the treatment of sexually abused children, which refers to the phenomenon of an individual believing that the damage done to one's body is both non-repairable and irreversible. This belief is accompanied by a sense of guilt, anxiety and depression. The individual also suffers from low self-esteem, difficulties in socialization, repressed anger and hostility, blurred boundaries in interpersonal relationships, confusion in self identification, immaturity or inability in performing sexually and lower levels of self control.

Harper (2003) suggested that it is important for therapists to differentiate between the potential harm of boundary violation and the benefits of boundary crossing and shifting, Therapists need to know their own boundaries, and identify situations that affect their boundaries transformation.

Therapists also have the responsibility to continuously review the progress and pay attention to their own feelings before, during, and after therapy session, since boundary shifting exists in general, if neglected, it can turn into boundary crossing or violation.

Gutheil & Gabbard (1993) noticed counseling psychologists' dilemma in handling boundaries during counseling sessions. The following dimensions can be used to evaluate and define boundaries during the progress in counseling: role (to understand and set appropriate therapist behaviors); place and space (location and surroundings); time (therapy sessions and arrangements); money (fees and the handling of loans); gifts and services (giving or receiving materialistic or non-materialistic gifts); clothing (style and form); language (titles, tones and choices of words); self-disclosure (therapists' voluntary behaviors, personal messages and self-disclosure) and; physical contact (handshakes, touching and hugging). These dimensions are used in assess the boundaries in the therapeutic progress.

3. Methods of Research and Sources of Information

  1) Direction of Research

  This research employs methods of qualitative research, collecting information through in-depth interviews; evaluating the issue of therapeutic boundaries from counseling psychologists' point of view, using the outline of semistructured interviews as guidelines to facilitate participants in describing their experiences. As for content analysis, a quality-orientated approach is adopted.

  2) Research Targets

  The targets of this research are working counseling psychologists (non sex specific) who hold license issued by the Republic of China, with at least a year's experience in therapy for sexually abused children, who are familiar with issues surrounding the topic and are employed by organizations specifying in consultation and treatment for sexually abused children and teenagers. A total of five participants were interviewed, one of which is male and the remaining four are females.

  3) Content of Interviews

  1: In your experience, what kinds of therapeutic boundaries have you noticed during consultations with sexually abused children?

  2: During consultations with sexually abused children, how do you facilitate your clients in understanding therapeutic boundaries in counseling sessions? Apart from the usual therapy contract, what else will you emphasize on or pay special attention to?

3: How do you realize the transformation in therapeutic boundaries in counseling sessions? In what situation will you try to adjust therapeutic boundaries? What factors will you consider?

4: Once you have decided to adjust therapeutic boundaries, how will you do it? How will such adjustments affect later counseling progresses?

5: In reviewing your views and methods in handling therapeutic boundaries, how will you comment on your previous views and methods now?

4. Conclusion and Discussion

Participants mentioned 7 categories in therapeutic boundaries including role, place and space, gifts, time, clothing, language, self-disclosure and physical contact, which agree with the dilemma in handling therapeutic boundaries as Gutheil & Gabbard (1993) have suggested. The category of money, on the other hand, had not been raised by participants. Researchers believe that this is due to the fact that the fees required for the services provided by the participant of this study were subsidized by the government.

Client seek counseling psychologists' care and attention through requesting participants to give gifts or attend personal activities, project feelings towards people of significance from the past on to their counseling psychologists, causing confusion in the professional position of counseling psychologists. This is similar to what Gil (1991) has described as a way for these children to connect with other people, and such behavior has to be noticed and dealt with promptly by counseling psychologists during treatment. Lanyado & Horne (1999) believe that it is essential for therapists to maintain contact with the children's parents, caretaker, or other professionals who are involved in looking after the children, so as to be opened to communication and stable a clear boundary.

The results of this research show other behaviors towards people of significance, reflecting on its effects on therapeutic boundaries and the importance of counseling psychologists establishing boundaries with their cases' people of significance. Counseling psychologists worried they would hurt the children's feelings by rejecting their requests, causing them to adjust the therapeutic boundaries on role, gifts and gifts. Harpers and Steadman (2003) established that anger could result as a reaction when individual or group therapists adjust therapeutic boundaries due to their concern about hurting the children's feeling, indicating that counseling psychologists have to consider the emotional reaction their clients might present and it's effects on later progress when adjusting therapeutic boundaries.

Herman (1992) wrote that seeking protection and care is the intention behind abused children's tendency in forming intimate relationships, but these children are often, at the same time, anxious about being rejected or violated, causing them to be less capable of protecting themselves in any kinds of intimate relationships or maintaining boundaries in interpersonal relationships.

Results of this research show that the factors of non-adaptive behaviors the participants considered are similar to the modes of non-adaptive behaviors presented in abused children developing interpersonal relationships described by scholars, therefore, it is essential for counseling psychologist to intervene at appropriate times in order to prevent such behaviors further influence on the children.

Holub & Lee (1990) stressed that whether or not to touch the clients is a very important decision to be made by therapists, and that counseling psychologists have to first understand the psychological conditions and experiences of the children, i.e. physical contact might not be appropriate to children who suffered incestuous abuse. Even though participants did not mention if cases in which they considered the boundaries of physical contact was incestuous, they still stressed the importance of research the information about the abuse the children suffered from in considering the adjustment in therapeutic boundaries. Participant A is the only male counseling psychologist who took part in this study and he mentioned the multiple gender-orientated considered in his experience with clients whose history of abuse was heterosexual, including the categories of role, language, self-disclosure and physical contact, indicating the important role sex and gender paly in the adjustment of therapeutic boundaries, and this is worth researching further into.

Participants also mentioned that utilizing Landreth's (2002) steps the establishment of therapeutic boundaries could help children display behaviors and emotions in symbolically, helping psychologists in being objective while engaging, and maintaining professional and morally appropriate relationships with the children. When the children make requests that might cross therapeutic boundaries, counseling psychologists could make use of methods of boundary establishment to effectively help the children notice and demonstrate, and in turn helping them learn to establish boundaries with others. Hill's (2000) immediacy technique challenges the children to change their non-adaptive behaviors.

When the psychologists reaction are genuine, the children would realize the causes of frictions and change their own behaviors and this has the same effects on the children as the participants mentioned using their immediate reaction to prompt children in noticing their own modes of behaviors. The right to choose should be provided for children during counseling sessions to encourage them in choosing their preferred mode of consultation as Herman (1992) suggested trauma could take away children's sense of power and control, and the principal of recovery in in reclaiming the sense of power and control, illustrating the significance of notice the apprehensions these children might have on every level. Participants agreed with this suggestion in the interviews, showing the effects of providing children with autonomy during therapeutic progresses. Besescu (1990) discusses the power self-disclosure has in battling the sense of mystery in abusive experiences.

Well thought-out self-disclosure is a useful tool in counseling because children who have gone through abuses would present senses of being violated, abused and unfairness in the ways they relate to the counseling psychologists. Utilizing the new relationship built during therapy in decomposing their existing perceptions of interpersonal relationship is a key factor in psychological therapy (Pearlman & Saakvitne, 1995). Participants mentioned such uses in their experiences, showing the feasibility of these suggestions by scholars.

Participant E mentioned using methods of interpersonal progress orientation by having multiple people involving emotional, roleplaying as roles such as the children's parents in facilitating the children's relations with counseling psychologists, agreeing with the way Pearlman & Saakvitne described as potential beneficial.

They also mentioned once counseling psychologists have made sure the children understand there will be no repercussions and that they do not have to consider the needs of their psychologists, children are able to differentiate between their relationships with counseling psychologists and their abuser, and demonstrated ways in negotiating responsibilities and boundaries that have not been brought up in the children's experience.

To conclude, therapeutic boundaries are both potentially beneficial and harmful to sexually abused children's recovery and it is essential for counseling psychologists to consider this and weigh the potential effects such boundaries have on the children before performing any form of adjustments or intervention.
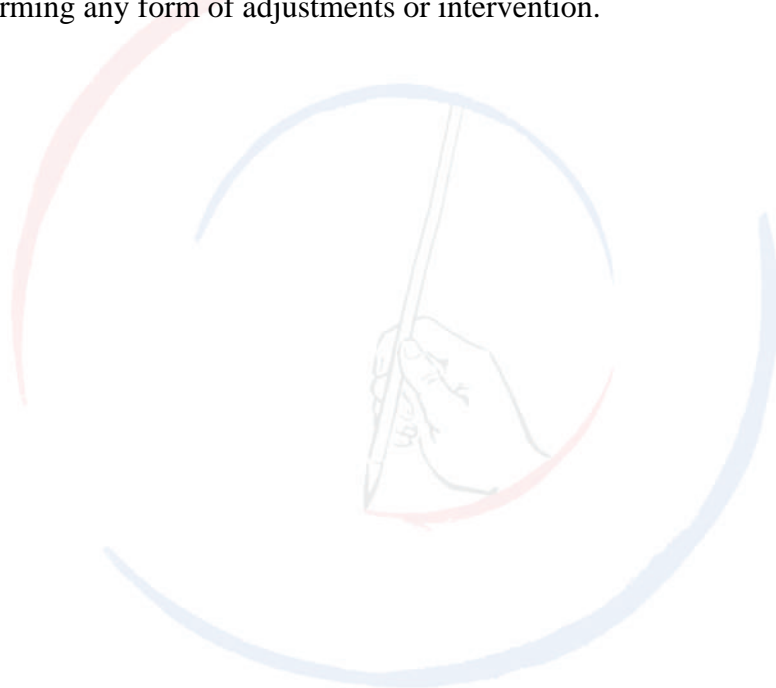
A Study of Professional Helpers' Experience in Self-Care Through Mindfulness Yoga

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Abstract

Over the years, the cultivation of professional helpers has focused on theory instruction and practical training. Few counseling programs directly address the importance of self-care in reducing stress and burnout in their curricula (Newsome, Christopher, Dahlen, & Christopher, 2006).In the process of helping people, however, the helper's personal factors and well-being are interwoven with perplexity and condition of the persons involved, thus making professional help a highly complex and challenging task. Therefore, attention to professional helpers' self-care can't be overemphasized.

The purpose of the study was to explore the professional helpers' experience in self-care through mindfulness yoga. Three professional helpers were interviewed to understand their personal experience. Qualitative analysis was applied to collected data. The results of the analysis are as follow:

1. Mindfulness yoga helped professional helpers experience deep mediation, repairs energy burnout and physical fatigue, and promotes self-awareness and nourishment.

2. The bodily thinking enables helpers to stay in the moment see into their inner selves, and be better at responding to internal and external stress.

3. Yoga practice is less affected by time and space. It enhances an individual's ability to relax, increases the awareness of the helping process, and timely protects the clients and helpers.

4. Mindfulness yoga keeps helping professionals achieve a much more tranquil condition, promotes love and kindness and positive energy, prevents professional burnout, and allows helping work to be longer-lasting.

Keyword: professional helpers, self-care, mindfulness yoga

Introduction

1.   Background and rationale

In the field of professional helping, the developing process and practical training has been highly emphasized for a long time. However, counseling curricula that directly emphasize the importance of self-care to reduce stress and professional burnout remains scanty(Newsome, Christopher, Dahlen, & Christopher,2006) . Years of intensive learning and training guides helpers with professional certificates to enter the job market, however, real challenges might be just about to surface. In the process of professional helping, a helper's personality, experience, attitude, and mental as well as physical well-being interweave with the perplexity and condition of the client, making the given task highly complicated and challenging. Therefore, a helper's mental/physical care and state of being cannot be disregarded.

The scope of helping professionals is very wide. It includes clinical psychologists, counseling psychologists, elderly consultants, school psychologists, social workers, rehabilitation consultants, and psychiatric medical personnel (He, 2007). Challenges that helping professionals might face include professional stress, professional burnout, and vicarious traumatization. For example, the client's suicide, resistance, and hostility, the helper's anxiety, perfectionism, and personal problems, stress such as excessive cases assigned by an organization, low salary, and insufficient professionalism suffocate helping professionals. Inappropriate expression of continuous and repeated emotional stress accumulates for a long time and acontinuing search for satisfactory methods to dealing with clients easily leads to professional burnout (He, 2007). Empathy into the client's traumatic issues, on the other hand, leads to vicarious traumatization.

Yoga takes on meanings such as "connection" or "combined" （Boccio,2003）. In the learning process of the helping profession, researchers gradually sense that the helper's mental/physical condition is very important while dealing with the person involved. Because of my friend's introduction, I had the opportunity to come in contact with mindfulness yoga. Mindfulness yoga allows an individual to observe changes that it brings about to the self via posture (asana), breathing, deep relaxation, and meditation. Without judgment or rejection, an individual perceives the process and totally accepts the changes（Douglass,2011）. In other words, mindfulness yoga combines the mindfulness of Buddha yoga with asanas and the breathing of Indian yoga and integrates absorbed perception to perceive the inner feelings and psychical habits of an individual. This facilitates the development of self-understanding and transformation, enhances personal perception, and enables an individual to perceive a revitalized mindset, tranquil , joy, and happiness（Boccio,2003）.

2. Purposes of the study

Based on the afore-mentioned research background and rationale, the current study aims to investigate helping professionals' self-care experience with mindfulness yoga and their experiences with changes in response to helping with stress. It is   hoped that professional helpers can better take care of themselves during the help process. So they can improve the quality and lengthen the task of professional help.

Methods

A semi-structured interview in qualitative research was utilized in the current study for data collection, where direct interview with helping professionals was utilized to understand their self-care experience with mindfulness yoga.

1. Participants

The participants in the current study included a medical worker, a community psychologist, and a college counselor. Demographic information of the three participants is listed in Table 1.

Table 1
Demographic information of the participants

No.	Gender	Background	work experience	yoga experience
A	Female	Registered nurse	26 years	11 years
B	Female	Psychologist	20 years	25 years
C	Male	College counselor	10 years	10 years

2. Instruments

(1). Interviewer

The researcher of the current study acted as the interviewer, with the purpose of ensuring the mastery of interviewing techniques and the familiarity with the research structure. The researcher, a Ph.D. student majoring in counseling psychology, has been engaged in counseling for almost ten years. During her working period, the researcher also cared for herself with yoga and followed different yoga instructors. For the past five years, the researcher has fixed on a yoga instructor specializing in both Buddha yoga and Hatha yoga.

(2). Interview protocol

The interview protocol provided the interviewer basic structure and direction for the interview, making sure that the interview process fit the research topics. The researcher first drafted an interview protocol and revised it after the pilot study. The outline of the final interview protocol is as follows:

1. What are the most stressful and challenging aspects in the field of helping? How do you cope with them?
2. How does your contact with yoga influence the experience and changes responding to helping stress?
3. What are the effects of asanas, breathing, and meditation on the perception of inner/outer condition and emotional control of the moment?
4. What's your opinion on the notion that practicing mindfulness yoga enhances the spirit of love and kindness? Provide some previous experiences.

2. Research procedure

(1). The pilot study
After the researcher drafted the outline of the interview, a pilot study was carried out, where a helping professional who also has yoga experience was interviewed. Unsuitable sections observed in the interview process were later revised and became the final interview protocol.

(2). The formal interview
Based on the recommendation from the researcher's yoga instructor and the introduction from the researcher's friends, the research called the candidates and determined the final interviewees. The semi-structured interview was recorded and it lasted 1.5~2 hours for every interviewee.

(3). Data processing
The researcher first transcribed the audio recordings of the interview and then repeatedly read the texts to have a comprehensive understanding. Later, the texts of each transcript were underlined, segmented, and summarized, with which relevant analysis and categorization was conducted to disclose specific themes. To make sure that the researcher did not misunderstand the interviewees' opinions, the descriptive text was then mailed to the interviewees for them to double check the content. The researcher further compared, generalized, re-structured, and grouped relevant specific themes from the descriptive texts, with the aim of generating common themes and a synthesized finding.

Results and discussion

The synthesis of the three interviewees' experience revealed that stress and challenges helping professionals frequently faced were divided into the following three major categories: 1) system instability in the working environment and personnel stress, 2) vicarious traumatization and energy burnout from the clients, and 3) factors related to the helper and their family.

Among the aforementioned challenges, energy burnout resulting from negative energy while working, led the three interviewees to sense the importance of taking good care of themself. For example, only when Interviewee A was aching all over did she suddenly realize that she should take good care of herself" (A1-03) and start practicing yoga on a weekly basis. Interviewee B self-reported that, "Whenever I am tired, I will go into nature,… be alone, stretch out and meditate… That's the way to revive my energy" (B1-10). Interviewee C stated that, "I usually practice asanas outdoors during holidays. When I am really tired, I will practice body awareness to relax . … I won't take the job home…. I could easily switch roles with the client if I did" (C2-14).

Yoga practitioners usually regard yoga practice as a good means to stress management and self-care(Kelly & Colquhoun, 2005). The interviewees in the current study stated that the learning of yoga significantly improved their responses to stress, attitude, and mood while helping others. Major changes were as follows:

1. Enhancing personal attentiveness and awareness, and improving emotional control

Through various techniques such as asanas, breathing, deep relaxation, and attentiveness, mindfulness yoga enhances our awareness, make us better understand our inner selves and body experience, helps us perceive the inner/outer condition of the moment, and improves emotional control（Douglass,2011）. Interviewee A expressed that after learning yoga, she has been aware that her body and mind has become softer and she is more able to accept the patients' emotions, saying that, "During work, I will perceive the induced emotion via deep breath, minimize the frustration and stress, and adjust myself to look at bright side of things" (A2-05).

"After my limbs become soft,… I also get a softer attitude,… I am more empathetic and feel the mental/physical discomfort patients suffer, and more able to accept patients' emotions" (A2-07). Interviewee B also mentioned that, "I am more aware of the condition that the patient is in and clearer about mine. I know I need to repair or heal myself when I am exhausted or moody, or show countertransference towards the cases. I need to be self-aware so I know whether or not any negative energy accumulates in me. I pay more attention to the moment (here and now)" (B1-15).
Interviewee C pointed out the effects of asanas on himself, including, "the enhancement of attention, and the decrease of getting interfered with" (C1-02), saying that, "I am aware of the feeling that each inhalation and exhalation brings to me…. I am aware of my physical condition, muscular condition…. Gradually, I don't just practice asanas once a day in my daily life…. I practice asanas at any time in my daily life, and such practice enhances my sensibility" (C2-02).

2. Mindfulness yoga enhances an individual's ability to relax, increases the awareness of the helping process, and timely protects the cliets and helpers

In the field of professional helping, different people involved often come with different problems and situations. Therefore, helpers' timely relaxation enhances the awareness of the conditions in the helping process, which benefits both the cases and the helpers. Interviewee A mentioned that, "Higher integration of the body and mind leads to greater physical relaxation and subsequent psychological relaxation." (A2-07). Interviewee B noted that, "The recent case I had was anxious, nervous, had insomnia and had shallow breath. So I started deep breathing, hoping to reach a balanced aura. Helpers are tools. A good aura benefits the cases and promotes self-protection." (B1-19). Interviewee C also mentioned that, "When I am in a state of anxiety or nervousness, my breath is shorter, shallower, and rapider. My muscles become stiffer and my emotion is tenser. The breathing practice enables me to be more aware of what happens to me and my current of well-beings. This is a kind of self-care." (C1-14). Besides, "I am more aware of the relationship and the atmosphere in the interview. I'll know what happens" (C1-08).

3. The practice of mindfulness yoga guards the energy, keeps helping professionals achieve a much more tranquil condition, promotes love and kindness and positive energy.

All of the three interviewees mentioned that the practice of mindfulness yoga kept them in a more relaxed and tranquil condition and enabled them to be more positive about events, thus making their energy to spring up. Interviewee A noted that, "Since I practiced yoga,… I have received mental and physical comfort as well as relaxation. I have experienced pleasurable feelings and gained the energy of positive thinking." (A1-08). "When my meridians and body are stretched out further, it seems to be easier for me to get into meditation." (B1-22). "I feel gratitude, pleasure, and peace. What surfaces when I meditate in yoga is to thank my parents." (B1-24).

Interviewee C mentioned that since he practiced yoga, he has obviously felt that his inner emotions are much more stable, saying that, "It feels like a protection shield. Although I am doing things, everything around me is crystal clear. My feelings are more tranquil. Excited or angry emotion will return to calmness." (C1-03). "I stay in a much tranquil condition, where energy can be kept and negative thoughts will not prevail." (C1-16). "I think I am in a much more tranquil condition. Love springs up and never ends." (C1-18).

Conclusions

Through the interview and comprehension process, the researcher not only better realizes how mindfulness yoga broadens the substance and vision of self-care experience that helping professionals have, but also finds vagueness and confusion existed in previous yoga learning. Such dialogue leads to deeper comprehension. The reflection on personal yoga learning experience enables the researcher to have a better understanding and awareness of the effects of mindfulness yoga on helping professionals' self-care and mental/physical condition. Based on the results of the current study, the conclusions of the study are as follows:

1. All of the three interviewees agree that mindfulness yoga repairs energy burnout and physical fatigue, helps individuals experience deep meditation, and promotes self-awareness and nourishment.
2. The bodily thinking enables helpers to stay in the moment see into their inner selves, and be better at responding to internal and external stress.
3. Yoga practice is less affected by time and space. It enhances an individual's ability to relax, increases the awareness of the helping process, and timely protects the clients and helpers.
4. Mindfulness yoga keeps helping professionals achieve a much more tranquil condition, promotes love and kindness and positive energy, prevents professional burnout, and allows helping work to be longer-lasting.

References

Behere, R. V., Arasappa, R., Jagannathan, A., Varambally, S., Venkatasubramanian, G., Thirthalli, J, Subbakrishna, D. K., Nagendra, H. R., Gangadhar, B. N. (2011). Effect of yoga therapy on facial emotion recognition deficits, symptoms and functioning in patients with schizophrenia. *Acta Psychiatrica Scandinavica 123,* 147-153. John Wiley & Sons A/S.

Boccio, F. J. (2003). *Mindfulness Yoga: The Awakened Union of Breath, Body, and Mind.* Wisdom Publications.

Descilo, T., Vedamurtachar, A.,Gerbarg, P. L., Nagaraja, D.,Gangadhar,B.N.,Descilo, T., Vedamurtachar, A.,Gerbarg, P. L., Nagaraja, D.,Gangadhar,B.N., Damodaran, B., Adelson, B., Braslow, L.H., Marcus, S., Brown, R.P.(2010). Effect of yoga breath intervention alone and in combination with an exposure therapy for post-traumatic stress disorder and depression in survivors of the 2004 South-East Asia trunmi. *Acta Psychiatrica Scandinavica 121,* 289-300. John Wiley & Sons A/S.

Douglass, L. (2011). Thinking through the body: The conceptualization of yoga as therapy for individuals with eating disorders. *Eating Disorders, 19,* 83-96, Taylor & Francis Group, LLC.

Duraiswamy, G., Thirthalli, J. Nagendra, H. R., Gangadhar, B. N. (2007). Yoga therapy as an add-on treatment in the management of patients with schizophrenia-a randomized controlled trial. *Acta Psychiatrica Scandinavica 116,* 226-232. Journal Compilation Blackwell Munksgaard.

He,Jin-Zhen(2007). Professional Helpers' Psychological Adjustment. *Counseling& Guidance 263*, 2-9.

Kelly, P., & Colquhoun, D. (2005). The professionalization of stress management: Health and well-being as a professional duty of care? *Critical Public Health, 15*, 135–145 。
Newsome, S., Christopher, J.C., Dahlen, P. Christopher, S. (2006) . Teaching counselors self-care through mindfulness practices. *Teachers College Record. 108*(9),1881-1900.

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Exploring Consumers' Intention to Accept the Smartwatch

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Abstract

The smartwatch currently the most popular layout of wearable technology, a promising category of information appliances. As an integration of classic timepiece and fashionable IT industries, the smartwatch is a challenging business since these industries used to possess very different marketing strategies. However, few studies having discussed about consumers' attitude toward such innovations. This study intends to: (1) propose a research model for the smartwatch context, and (2) identify potential consumers.

Combined with the Unified Theory of Acceptance and Use of Technology (UTAUT), the Innovation Diffusion Theory (IDT), the Technology Acceptance Model (TAM), and perceived enjoyment concept, our proposed research model is expected to better fit into the smartwatch context and reflect an individual's perception more realistically. A quantitative questionnaire survey would be conducted mainly online, targeting on Taiwanese residents. Aside from the responds toward the core constructs, demographic data such as age, gender, industry of their job, as well as the educational level will also be recorded. Through cluster analysis, characteristics of the potential smartwatch customers will be exploited.

Expected academic contributions of this study are apparent, future researches related to the smartwatch, or even other wearable forms, can be benefited from the proposed framework. For management practice, the method and implications of this research can also assist companies in achieving better customer segmentation, along with exploiting potential application field or features.

Keywords: Smartwatch, Innovation Diffusion Theory (IDT), Technology Acceptance Model (TAM), Unified Theory of Accept and Use of Technology (UTAUT)

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Introduction

Wearable technology has become a widely discussed topic in recent years, among its various layouts, the smartwatch is one of the most popular and fast-growing product line. Almost every major information technology manufacturer has released products or platforms of its kind, such as Apple, Google, Samsung, etc. Predicted by Gartner Inc. smartwatches will comprise about 40 percent of consumer wristworn devices by 2016 (Rivera & ven der Meulen, 2014).

According to Wikipedia, the smartwatch is described as "a computerized wristwatch with functionality that is beyond timekeeping", "modern smartwatches are effectively wearable computers." (Wikipedia, 2015). Current smartwatches usually consist of the following features:

(1) Timekeeping: clock, stopwatch, timer, etc.
(2) Fitness management: monitor activity heartbeat, calories, and other physical data, along with planning features for training.
(3) Notifications and communication: send/receive notification updates, messages, and phone calls.
(4) Location service and Internet connectivity: GPS navigation, activity mileage recording, as well as online information providing, such as stocks, transport, and weather
(5) Others: camera, remote, mobile payment, etc.
Users may expand the features by installing additional applications.

Unlike previous technological products, the smartwatch attempts to integrate two less interrelated industries. The first is classic timepiece industry, with a long development history and extremely emphasizing on the craft, the taste and social status symbols of its customers. Another one is the IT industry, which focuses on features, newness, mass production, and short product life cycle. The smartwatch is a challenging business, therefore, the market strategy for the smartwatch is expected to change.

This study aims to propose a new framework for smartwatch researchers and practitioners by reviewing prior IT acceptance literatures, three important theories: Innovation Diffusion Theory, Technology Acceptance Model, and Unified Theory of Acceptance and Use of Technology will play a major role in this study. On the other hand, identifying the characteristics of potential consumer is another primary mission. Through investigating on if smartwatch can successfully attract the potential customer of exquisite timepiece and information appliances market, as well as how do age, gender, profession, profession, and educational level affect consumers' evaluation. Implications for not only academic, but also management practice can then be made to get a better understanding about the product's future.

Innovation

Although smartwatches are generally considered as innovative products, this study has reviewed the definitions and taxonomy of innovation from authoritative literatures in order to give a discreet and clear examination.

Scholars have proposed various concepts of what an innovation is from their own perspective in the past decades. Some of them emphasizes on the newness or differences. Such as Rogers (2003), who simply put that an innovation is an idea, practice, or object regarded as new by its adopters; Blythe (1999) mentioned that the word innovation, as a noun, refers to a product which is significantly distinguished with its precursors or competitors. However, some literatures tried to explained the word from the organizational perspective, highlighting on the benefits to its stakeholders, such as manufacturers, service providers, and customers (Baregheh et al, 2009). This study summarized the above points and propose a new description, stating that an innovation is generally considered as a tangible or intangible entity that can make changes to current one and benefit the stakeholders.

Smartwatch acceptance is the theme issue of not only this study, but also the managerial practice. Therefore, a review of previous IT acceptance literatures has been conducted for seeking the theoretical basis of this research.

Innovation Diffusion Theory (IDT)

The Innovation Diffusion Theory was developed by Rogers (1962) in his *Diffusion of Innovations* literature, the latest edition was published in 2003. IDT was initially designed to explain the reasons, methods, and the adoption rate that an innovation spreads in a specific social system through time. The theory contains five key elements: innovation, adopters, communication channels, time, and social system in order to provide an objective analysis toward the diffusion process. The perceived attributes: relative advantage, compatibility, complexity, trialability, and observability proposed in IDT were useful for evaluating an innovation, often separately adopted by later innovation-related studies. Moore and Benbasat (1991) reviewed and adapted these attributes into seven perceived characteristics of information technology (IT) innovations, defined as follows (Moore & benbasat, 1991; Venkatesh et al, 2003):

(1) Relative Advantage: "the degree to which an innovation is perceived as being better than its precursor."
(2) Ease of Use: "the degree to which an innovation is perceived as being difficult to use."
(3) Compatibility: "the degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters."
(4) Result Demonstrability: "the tangibility of the results of using the innovation, including their observability and communicability."
(5) Image: "the degree to which an innovation is perceived to enhance one's image or status in one's social system."
(6) Visibility: "the degree to which one can see others using the system in the organization"
(7) Voluntariness of Use: "the degree to which use of an innovation is perceived as being voluntary, or of free will."

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), was also an important information system theory. TAM investigates on an individual's Perceived Usefulness and Perceived Ease of Use toward an innovation, which then determine

the Attitude toward Using, Behavioral Intention to Use, and finally the Actual System Use. The definition of each TAM constructs are as follows (Davis, 1989; Davis et al, 1989; Venkatesh et al, 2003):

(1) Perceived Usefulness: "the degree to which a person believes that using a particular system would enhance his or her job performance."
(2) Perceived Ease of Use: "the degree to which a person believes that using a particular system would be free of effort."
(3) Attitude Toward Using: "an individual's positive or negative feelings about performing the target behavior."
(4) Behavioral Intention to Use: "The degree to which a person has formulated conscious plans to perform or not perform some specified future behavior"

Notably, Perceived Usefulness also has a direct impact on Behavioral Intention, the reason is that an individual may possess a positive perception of usefulness which can enhance the intention, despite of the negative attitude toward the system. (Taylor & Todd, 1995; Mao & Palvia, 2010)

TAM was broadly used in IT researches, however, the theory was also criticized and questioned in some ways. One thing was the explaining capability toward the innovation usage, Benbasat & Barki (2007) argued that TAM ignored other important issues due to its oversimplified construction. Besides, the un-unified changes to the model which intend to fit into the new environments has caused chaos to the theory.

The term Perceived Usefulness was another controversial issue. Although Perceived Usefulness is considered very similar with Reletive Advantage and are usually interchangeable (Moore & Benbasat, 1991; Davis et al, 1989; Venkatesh, 2003), the meaning of the term has not been clearly explained since the term was originally used to describe information in the electronic system design, instead of the system itself (Moore & Benbasat, 1991). Therefore, Relative Advantage is more recommended.

Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al (2003), reviewed and integrated constructs from eight theoretical models including: Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivation Model (MM), Theory of Planned Behavior (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT).
UTAUT model consists of the four independent variables (Venkatesh, 2003):

(1) Performance Expectancy: "the degree to which an individual believes that using the system will help him or her attain gains in job performance."
(2) Effort Expectancy: "the degree of ease associated with the use of the system."
(3) Social Influence: "the degree to which an individual perceives that important others believe he or she should use the system."
(4) Facilitating Conditions: "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system."

The UTAUT and later researches of TAM removed the mediator Attitude Toward Using (Attitude), which originally existed in the initial TAM model since it was claimed as a "weak mediator" (Yi and Huang, 2003). Nevertheless in rationale, high performance in the perceived characteristics may not lead to the same degree of high intention. The elimination of Attitude neglected the influence of an individual's emotional judgement, which is somewhat unrealistic.

Enjoyment

Perceived Enjoyment has become very important in recent studies regarding to the consumer-oriented products and services. Derived from the psychological theories including the playfulness theory and the flow theory.

Davis et al. (1992) stated that "consumer behavior and IS research have theorized and found various constructs related to hedonic motivation (e.g. enjoyment) are important in consumer product and/or technology use."

Venkatesh et al (2012) proposed the UTAUT2, different from the original model which focused on the organizational level, the UTAUT2 model was from the customer perspective (Venkatesh, 2012). Therefore, additional attributes of and individual's emotional perception such as Hedonic Motivation, Price Value, and Habit were included. Among them, Hedonic Motivation is conceptualized as Perceived Enjoyment.

Perceived Enjoyment is more widely-used and easy-to-understand term among related literatures, this study employees the term Enjoyment directly.

Research Method

This study decides to combine UTAUT with IDT and TAM, for several reasons: (1) Although the UTAUT model has already integrated models including IDT and TAM, some of the UTAUT constructs didn't reveal all of the definitions they merged. Take Facilitating Conditions for example, though it consists of Compatibility from IDT, whether an innovation is consistent with existing value or not was never discussed in Facilitating Condition. (2) IDT constructs can provide a more detailed evaluation of an innovation. (3) TAM's Attitude toward Using and the relationships between other variables should be re-examined.

The PCIs of IDT are incorporated to replace some of the original UTAUT variables, however, since IDT and UTAUT originally focused on the individual behavior within a certain organization, Voluntariness and Visibility will removed in this case, for smartwatches are still a consumer-oriented product, which decision of adoption is all up to the individual's own. In addition, for such a new product, it is predicted not easy to see other social member using the smartwatch at this moment.

UTAUT has already included Image in Social Influence, the later focuses more on an individual's consideration of important others' belief, slightly different from the former which discusses the individual perceived improvement to hs or her social status. This study decides to keep the Social Influence term, but add items from both constructs to the questionnaire.

Smartwatch is a personal gadget, which means that it should improve not only one's job performance, but also the convenience of one's daily life. Thus, this study uses the term "relative advantage" to emphasize on the comparison with previous technologies of its kind, such as traditional watches or existing sport wristbands. Therefore, Performance Expectancy of UTAUT will be changed to Relative Advantage.

Finally, Perceived Enjoyment and Attitude are added to the framework, Facilitating Conditions will be deleted from the model, because current smartwatches are working with the smartphone, which is very popular these days.

The research model also encompasses four demographic variables as moderators which are age, gender, profession, and educational level in order to conduct customer segmentation.
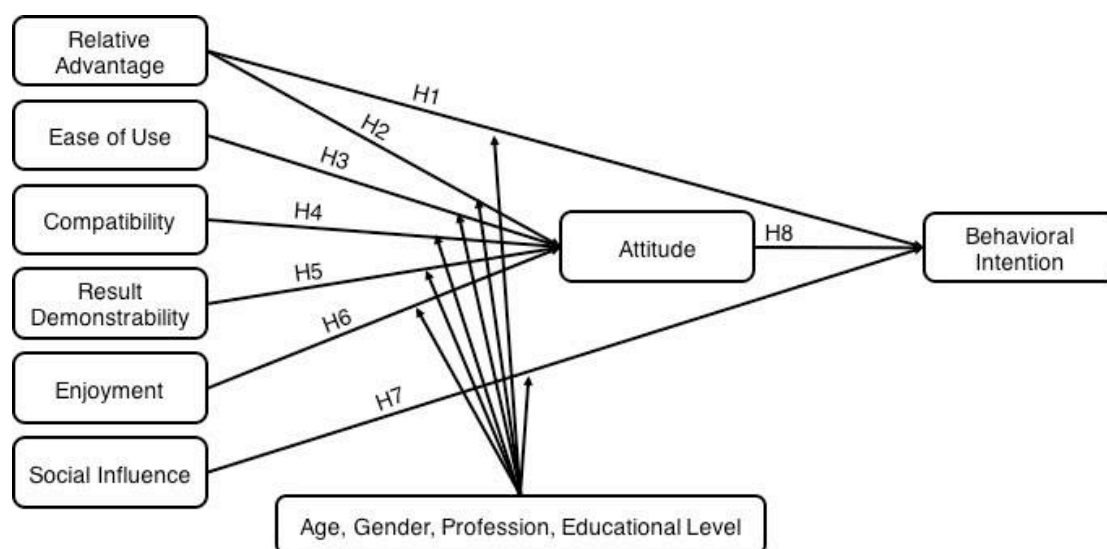
Figure 1: Proposed research model

The hypotheses are as belows:

Hypothesis 1: Perceived relative advantage has a positive effect on behavioral intention to use the smartwatch.
Hypothesis 2: Perceived relative advantage has a positive effect on the attitude toward using the smartwatch.
Hypothesis 3: Perceived ease of use has a positive effect on the attitude toward using the smartwatch.
Hypothesis 4: Perceived compatibility has a positive effect on the attitude toward using the smartwatch.
Hypothesis 5: Perceived result demonstrability has a positive effect on the attitude toward using the smartwatch.
Hypothesis 6: Perceived enjoyment has a positive effect on the attitude toward using the smartwatch.
Hypothesis 7: Perceived social influence has a positive effect on the attitude toward using the smartwatch.
Hypothesis 8: Attitude toward using the smartwatch has a positive effect on the behavioral intention.

The research samples are targeted on Taiwan residents, with no limits on demographic data. Cluster analysis is expected to be applied for fulfilling the objective of this research – identify the potential consumers.

Conclusion

This study aims to achieve the following academic contributions: (1) Proposing a new and available research model that is more suitable for the smartwatch, even the wearable technology context. (2) Proving the perceived characteristics of IDT can be partially applied to provide a more detailed evaluation of innovations than original UTAUT constructs. (3) Re-examining the status of the mediator Attitude Toward Using, which was often ignored or claimed unimportant.

Also, this study is expected to benefit management practice with a better customer segmentation method for not only smartwatches, but also other wearable products that combines heterogeneous businesses. Last but not least, helping the firms to exploit more potential application fields is also an anticipation.

Unavoidably, there are at least research limitations due to the time and resources available. One is that some variables, such as perceived price value and brand value are not able to be included. However, they are important, even critical in real market environment. Another is the lack of detailed lifestyle evaluation, the Activity-Interest-Opinion (AIO) analysis that frequently used in lifestyle research can reflect an elaboration of a consumers value, which is more helpful for marketing research than general demographic analysis. Future researches are encouraged to complement this to improve the research model.

References

Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management decision*, *47*(8), 1323-1339.

Benbasat, I., & Barki, H. (2007). Quo vadis TAM?. *Journal of the association for information systems*, *8*(4), 7.

Blythe, J. (1999). Innovativeness and newness in high-tech consumer durables. *Journal of Product & Brand Management*, *8*(5), 415-429.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science*, *35*(8), 982-1003.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace1. *Journal of applied social psychology*, *22*(14), 1111-1132.

Mao, E., Palvia, P., Mao, E., & Palvia, P. Testing an Extended Model of IT Acceptance in the Chinese Cultural Context.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research*, *2*(3), 192-222.

Rivera, J. & ven der Meulen, R. (2014, September 17). Gartner Says Worldwide Smartwatch and Wristband Market Is Poised for Take Off. *Gartner Inc*. Retrieved from http://www.gartner.com/newsroom/id/2848817

Rogers, E. M. (2003). *Diffusion of Innovation* (Fifth ed.). New York: The Free Press.

Smartwatch. (2015). In *Wikipedia*. Retrieved April 28, 2015, from http://en.wikipedia.org/wiki/Smartwatch

Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information systems research*, *6*(2), 144-176.

Venkatesh, V., Morris, M. G., Gordon, D., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly, 27*, 425-478.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology. *MIS Quarterly*.

Free Will Beliefs and Moral Responsibility: Disbelief in Free Will Leads to Less Responsibility for Third Person's Crime

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Abstract

This study examined the effects of belief in free will on attribution of moral responsibility. Past research conducted in Western countries has found that people's belief in free will influences subsequent social judgment and behavior. For example, induced disbelief in free will caused participants to give lighter prison sentences of the criminal (Shariff, Greene, Karremans, Luguri, Clark, Schooler, Baumeister, & Vohs, 2014). What seems to be lacking, however, is a study which test generalizability of the findings across cultures. The authors therefore attempts to explore whether disbelief in free will results in forgiveness for the criminal in Japan as well. In the experiment, we employed English-Japanese translation to manipulate participants' belief in free will (free will vs. control vs. determinism). Then we presented hypothetical scenarios involving an assault which was caused by a third person or a participant's friend. Participants were asked to rate moral responsibility and sentencing of the criminal. The analyses revealed that participants in the determinism condition judged sentencing of the third person (criminal) less severely. In contrast, disbelief in free will does not have an effect on sentencing of the friend (criminal). These evidence leads to the conclusion that some basic assumptions of the effects of free will beliefs could be generalized across cultures. Implications are discussed with regard to the difference of sentencing judgments between the third person and friend, and also with regard to effects of free will beliefs on attribution of moral responsibility.

Keywords: Free Will, Determinism, Moral Responsibility

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1. Introduction

Conceptualizing Free Will Beliefs

Does belief in free will have a significant influence on people's social judgments and behaviors? In order to answer this question, however, it is necessary to clarify exactly what is meant by free will. It is a commonly-used notion in the philosophical literature and yet is a concept difficult to define precisely. Although differences of opinion still exist, there appears to be some agreement among philosophers that free will refers to the ability to act freely which consists of two elements: alternative possibility and agency (e.g., Haggard, Mele, O'Connor, & Vohs, 2010; Kane, 2005). Alternative possibility means the ability to choose actions from at least two options while agency means the ability to cause intended actions.

Is the above definition of free will shared by ordinary people as well as philosophers? Monroe and his colleagues have recently conducted several experiments which asked people to define the concept of free will on their words (Monroe & Malle, 2010, 2015). The overall pattern of results obtained in their experiments indicates that lay concept of free will is consistent with the one defined by philosophers. In specific, people think of free will as (a) the ability to make a decision/choice, (b) doing what you want, and (c) acting without internal or external constraints. "The ability to make a decision/choice" is considered to reflect alternative possibility (the ability to choose actions). On the other hand, "doing what you want" and "acting without internal or external constraints" are associated with agency (the ability to cause intended actions).

Intensity of Free Will Beliefs

Having defined what is meant by free will, we will now move on to discuss whether people believe in free will or not. In other words, do people believe that they have the abilities to choose actions and to cause intended actions? It seems almost self-evident that we feel to act freely in our everyday lives. This intuition is not off the mark and the idea that we have strong free will beliefs has been supported by empirical research (Laurene, Rakos, Tisak, Robichaud, & Horvath, 2011; Nahmias, Morris, Nadelhoffer, & Turner, 2005, 2006; Paulhus & Carey, 2011; Rakos, Laurene, Skala, & Slane, 2008). For example, Paulhus and Carey (2011) and Rakos et al. (2008) found that people tend to agree with the statements which support the existence of free will whereas they tend to disagree with the statements which deny the existence of free will, such as determinism or fatalism statements.

Influence of Disbelief in Free Will

As explained in the previous section, empirical evidence shows that people have strong beliefs in free will. But what would happen when people are told that they do not have free will? Past research has indicated that people's judgments change significantly under such situations. For example, Brewer (2011) found that when people read an essay which denies the existence of free will, they are less likely to attribute moral responsibility to others in general or those who transgressed in hypothetical scenarios. Accordingly, an anti-free will argument has a significant impact on judgments about moral responsibility.

Shariff, Greene, Karremans, Luguri, Clark, Schooler, Baumeister, and Vohs (2014) has recently replicated and expanded the Brewer's (2011) work. In their experiments, participants were first assigned to either the determinism or control conditions. Participants in the determinism condition read an essay of Crick (1994) or a neuroscience article which denies the existence of free will, while participants in the control condition read an essay or article which is irrelevant to the existence of free will. In a subsequent, ostensibly unrelated task, participants in the determinism condition gave shorter prison sentences of the criminal in a hypothetical scenario compared with those in the control condition. Their work thus again demonstrated that free will beliefs and moral responsibility are closely related to each other, and people are less willing to attribute moral responsibility for transgressors when belief in free will is challenged.

Explanation of Effects

Why does disbelief in free will affect people's moral judgments? As was pointed out in the opening section, free will beliefs are composed of alternative possibility and agency. On the grounds of this evidence, people would regard that they cannot choose actions and cause intended actions when they are told there is no such thing as free will. If people believe in the assertion that they cannot choose actions, they would be reluctant to attribute moral responsibility for an act because the actor has no other choices. Likewise, the recognition of lack of agency would make people less willing to attribute moral responsibility for an act because the actor did not intend to behave that way (Frankfurt, 1969). To summarize, people induced to disbelieve in free will would think that they are not able to choose intended actions, resulting in forgiveness for others even if they are criminals.

The Present Hypothesis

Inspired by the research by Shariff et al. (2014), the present article aims to investigate the association between the free will belief and moral responsibility. Although the foregoing review illustrates that reducing people's belief in free will makes them less willing to attribute moral responsibility for criminals, it remains unclear whether the findings could apply to other cultures as well. The current study therefore expands on prior work by testing generalizability of the findings across cultures. Specifically, we conducted an experiment for Japanese people and examine the effects of disbelief in free will on moral judgments. Our prediction is that participants whose belief in free will is challenged would judge sentencing of a criminal less severely than those whose belief in free will is bolstered or unaltered.

In addition to testing generalizability of the findings, the present research has another purpose of assessing the influence of the nature of interpersonal relationship with the criminal (i.e., a third person or friend) on the moral judgments. In the case of judging moral responsibility for friends, the judgment might be less severe than for unfamiliar persons because we are usually motivated to maintain good relationships with our friends and act with more tolerance (Baumeister & Brewer, 2012). As a consequence, it is likely that the effects of disbelief in free will disappear and people forgive the criminal (their friends) regardless of their belief in free will. In contrast, people would forgive the third person criminal only when their belief in free will is challenged.

2. Method

Participants

Eighty Japanese participants from the University of Tokyo agreed to participate in an experiment in exchange for 1,000 yen (approximately US $10). They were randomly assigned to conditions in a 3 (free will belief: free will vs. control vs. determinism) × 2 (relationship with the criminal: third person vs. friend) between-participants design.

Free Will Belief Manipulation

Participants first completed a task to manipulate free will belief. In this task, participants were shown a series of English sentences on a computer screen and they were asked to translate them into Japanese. The contents of the sentences varied across conditions. In the free will condition, participants translated sentences which support the existence of free will. An example is "To be morally responsible, I have to be the ultimate source of my behavior (Dennett, 2003)." Control participants translated sentences which are irrelevant to the existence or non-existence of free will, such as "Volcanoes are formed when a plate is pushed below another plate, or at a mid-ocean ridge or hotspot ("Mountain," 2013)." Participants in the determinism condition translated sentences which deny the existence of free will. A sample is "The experience of conscious will comes up at some point after the brain has already started preparing for the action (Wegner, 2002)." Note that some original sentences were rewritten for the purpose of better understanding for participants.

Positive and Negative Affects

In order to check the possibility that the free will belief manipulation affects mood, participants completed the Japanese version of Positive and Negative Affect Schedule (PANAS; Sato & Yasuda, 2001). The Japanese version of PANAS consists of a 8-item Positive Affect subscale and a 8-item Negative Affect subscale.

Moral Responsibility

Next, participants read a hypothetical scenario describing an offender who used a knife to stab a man to death. The scenario in the third person condition described that the offender was an unfamiliar person to participants. In contrast, the scenario in the friend condition described the offender as a familiar friend of participants. After reading the scenario, participants were asked to determine the guilt or innocence of the offender, and they were also asked how responsible the offender is for his action, using a 5-point scale (1= *not at all responsible* and 5 = *extremely responsible*). In addition, participants determined the length of appropriate punishment for the offender, which ranges from 0 to 20 years (21-point scale). At the end of experiment, participants were probed for suspicion and debriefed.

3. Results

Preliminary Analysis

We found both Positive Affect subscale (Cronbach's α = .86) and Negative Affect subscale (Cronbach's α = .84) to be highly reliable. Prior to the substantive analysis, we conducted an ANOVA to see if the free will manipulation affects participants' mood. As the manipulation had no effects on positive and negative affect scores ($Fs \leq$ 1.89, *n.s.*), it is not discussed further.

Moral Responsibility

Inspection of the answers to the guiltiness item revealed that all participants judged the offender as guilty, not as innocence. Next, we conducted a 3 (free will belief: free will vs. control vs. determinism) × 2 (relationship with the criminal: third person vs. friend) ANOVA on the responsibility item. This analysis found, contrary to the hypothesis, the two factors of the free will belief and the relationship with the criminal had no main effects or interaction effects. On the basis of this evidence, it might be seen at first that the manipulations of the present experiment were not effective. However, the mean rating of the responsibility item was 4.79 ($SD = 0.69$), which suggests a strong ceiling effect.

The mean lengths of punishment in each condition are presented in Figure 1. We conducted a 3 (free will belief: free will vs. control vs. determinism) × 2 (relationship with the criminal: third person vs. friend) ANOVA. This analysis yielded a significant interaction of free will belief × relationship with the criminal ($F(2, 74) = 4.48$, $p < .05$); main effects were not significant ($Fs \leq 0.51$, *n.s.*). Simple effects tests for the interaction revealed that in the third person condition, participants in the determinism condition ($M = 8.43$; $SD = 5.19$) judged the length of punishment shorter than those in the free will ($M = 13.38$; $SD = 4.29$) and control ($M = 12.43$; $SD = 5.02$) conditions ($t(74) = 2.62$, $p < .05$; $t(74) = 2.16$, $p < .05$).

This indicates that people who are induced to disbelief in free will are likely to attribute less responsibility for unfamiliar offenders. In contrast, the differences among the free will, control, and determinism conditions were not significant in the friend condition. Therefore, when people judge for the criminal acts of their friends, their belief in free will do not play a significant role. Looked at differently, in the determinism condition, participants in the third person condition ($M = 8.43$; $SD = 5.19$) judged the length of punishment shorter than the friend condition ($M = 12.92$; $SD = 4.13$; $F(1, 74) = 5.59$, $p < .05$). This is a rather surprising finding as people tend to attribute more responsibility for friend offenders than for unfamiliar offenders when belief in free will is challenged. In contrast, the effect of relationship with the criminal does not reach significance in the free will and control conditions ($Fs \leq 1.96$, *n.s.*). Thus, when people's free will beliefs are unchallenged or affirmed, attribution of moral responsibility do not change between the unfamiliar and friend offenders.
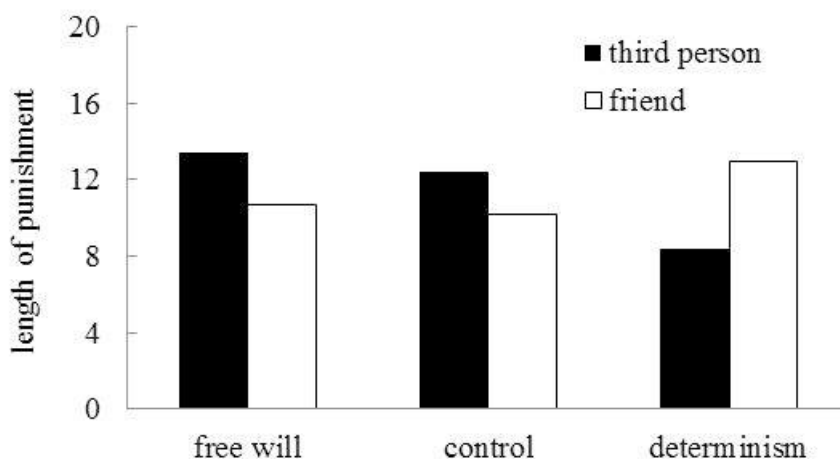
Figure 1: Mean lengths of punishment in each condition

4. Discussion

Hypothesis Testing

The present research examined the influence of disbelieve in free will on judgments of moral responsibility. On the one hand, we failed to detect a difference among the conditions on the responsibility item, but this is possibly due to the ceiling effect. On the other hand, consistent with our hypothesis, the free will belief manipulation significantly affected judgments of the sentence toward the criminal. Specifically, people whose belief in free will is challenged are likely to give shorter sentence than those whose belief in free will is unchallenged or bolstered. As discussed in the introduction, this effect seems to be mediated by the perception of abilities to choose intended actions; the lack of free will implies the lack of alternative possibility and agency, which are the major requirements for responsibility attribution. Given that the present research was conducted in Japan, it could be understood as that the findings of Shariff et al. (2014) could be generalized across cultures.

Relationship with Criminals

Although the current study replicated the findings of Shariff et al. (2014), relationship with the criminal moderated the effects of disbelief in free will. When participants judged the length of punishment for the third person criminal, induced disbelief in free will led to forgiveness for the criminal. In contrast, when participants judged the length of punishment for the friend criminal, disbelief in free will did not motivate them to forgive the criminal. As was mentioned in the introduction, we predicted the effects of disbelief in free will disappear and people forgive the friend criminal independently of the manipulation. While these predictions were partially supported, it was shown that participants gave harsher punishment toward the friend criminal than toward the third person criminal when their belief in free will is reduced.

One potential explanation for this pattern is that people generally expect their friends to act pro-socially, and consider that the criminal act of friends is more disappointing almost as an act of treachery. Therefore, they would judge the length of friend's punishment longer than the length of third person's punishment regardless of the free will belief manipulation. However, the main effect of free will belief was not significant and the length of punishments between the friend and third person offenders did not change under the conditions when people's free will beliefs are unchallenged or affirmed. Accordingly, the validity of this explanation is not supported by empirical evidence.

Another explanation is that reasons of punishment may differ between the conditions. For example, people punish friends to make them a better person whereas punishment for an unfamiliar person is based on the idea that the criminal deserves for his or her acts. The former justification is called retributivism while the latter is called consequentialism, and it has been suggested that justifications of punishment fall into these two categories (Greene & Cohen, 2004; Shariff et al., 2014). Although the present research did not distinguish between retributivism and consequentialism, further research should investigate whether people use different justifications for punishing criminals.

Induced Belief in Free Will

As discussed above, weakening belief in free will motivated participants to forgive the criminal. In contrast, strengthening belief in free will did not motivate them to blame the criminal. If free will beliefs promote attribution of moral responsibility, why bolstering belief in free will did not lead to severe judgments about the criminal? This question can be answered that people generally believe in free will and hence their beliefs and judgments remain unaffected by the messages which support the existence of free will. In accordance with this argument, it has been shown that most people have strong beliefs in free will (Laurene et al., 2011; Nahmias et al., 2005, 2006; Paulhus & Carey, 2011; Rakos et al., 2008), and their beliefs and various types of judgment do not radically change under the manipulation of bolstering free will beliefs (e.g., Baumeister, Masicampo, & DeWall, 2009; Vohs & Schooler, 2008). Consequently, the lack of effects of strengthening free will beliefs does not threaten our interpretation of the findings.

Conclusion

The question whether there is free will or not has been widely debated in the realm of philosophy and theology, some insisting that free will is nothing but illusion (e.g., Crick, 1994; Wegner, 2002). Although the results in the present study are not relevant for this question, they still advance our understanding of psychological processes under the influence of disbelief in free will. In specific, when people are told that there is no free will, they attribute less responsibility to criminals. In this way, scientific or unscientific messages that free will is illusion would have significant impacts on moral judgments in our everyday lives and in the trial scene. Therefore, additional research is needed to further clarify the mechanism involving the effects of disbelief in free will.

References

Baumeister, R. F., & Brewer, L. E. (2012). Believing versus disbelieving in free will: Correlates and consequences. *Social and Personality Psychology Compass*, *6*, 736-745.

Baumeister, R. F., Masicampo, E. J., & DeWall, C. N. (2009). Prosocial benefits of feeling free: Disbelief in free will increases aggression and reduces helpfulness. *Personality and Social Psychology Bulletin*, *35*, 260-268.

Brewer, L. E. (2011). Forging freely: Perceptions of moral responsibility mediate the relationship between belief in free will and willingness to forgive. *Unpublished master's thesis*. <http://diginole.lib.fsu.edu/etd/3044>

Crick, F. (1994). *The astonishing hypothesis: The scientific search for the soul*. New York: Simon & Schuster.

Dennett, D. C. (2003). *Freedom evolves*. New York: Viking.

Frankfurt, H. (1969). Alternate possibilities and moral responsibility. *Journal of Philosophy*, *66*, 829-839.

Greene, J., & Cohen, J. (2004). For the law, neuroscience changes nothing and everything. *Philosophical Transactions of the Royal Society of London B*, *359*, 1775-1785.

Haggard, P., Mele, A., O'Connor, T., & Vohs, K.D. (2010). *Lexicon of key terms*. Retrieved from http://www.freewillandscience.com/FW_Lexicon.doc

Kane, R. (2005). *A contemporary introduction to free will.* New York: Oxford University Press.

Laurene, K. R., Rakos, R. F., Tisak, M. S., Robichaud, A. L., & Horvath, M. (2011). Perception of free will: The perspective of incarcerated adolescent and adult offenders. *Review of Philosophy and Psychology*, *2*, 723-740.

Monroe, A. E., & Malle, B. F. (2010). From uncaused will to conscious choice: The need to study, not speculate about people's folk concept of free will. *Review of Philosophy and Psychology, 1*, 211-224.

Monroe, A. E., & Malle, B. F. (2015). Free will without metaphysics. In Mele, A. (ed.), *Surrounding free will* (pp. 25-48). New York, NY: Oxford University Press.

Mountain. (2013). In Wikipedia. Retrieved 09:53, June 7, 2013, from http://en.wikipedia.org/w/index.php?title=Mountain&oldid=558654837

Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2005). Surveying freedom: Folk intuitions about free will and moral responsibility. *Philosophical Psychology*, *18*, 561-584.

Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2006). Is incompatibilism intuitive? *Philosophy and Phenomenological Research*, *73*, 28-53.

Paulhus, D. L., & Carey, J. M. (2011). The FAD-Plus: Measuring lay beliefs regarding free will and related constructs. *Journal of Personality Assessment*, *93*, 96-104.

Rakos, R. F., Laurene, K. R., Skala, S., & Slane, S. (2008). Belief in free will: Measurement and conceptualization innovations. *Behavior and Social Issues*, *17*, 20-39.

Sato, A., & Yasuda, A. (2001). Development of the Japanese version of Positive and Negative Affect Schedule (PANAS) scales. *The Japanese Journal of Personality*, *9*, 138-139 (in Japanese).

Shariff, A.F., Greene, J.D., Karremans, J.C., Luguri, J., Clark, C. J., Schooler, J.W., Baumeister, R.F., & Vohs, K.D. (2014). Free will and punishment: A mechanistic view of human nature reduces retribution. *Psychological Science*, *106*, 501-513.

Vohs, K. D., & Schooler, J. W. (2008). The value of believing in free will: Encouraging a belief in determinism increases cheating. *Psychological Science*, *19*, 49-54.

Wegner, D. M. (2002). *The illusion of conscious will*. MA: MIT press.

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Switching Task in Thai University Students in Music and Non-Music Program

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Abstract

Adolescence is considered a critical period due to the occurrence of many changes; physically, psychologically, and socially. According to United Nations Population Fund or UNFPA, there are 1.8 billion adolescents and youth nowadays, which is one quarter of the world's population. Unfortunately, as reported by WHO, adolescents are faced with many risk factors including early pregnancy, HIV, violence, alcohol and drugs use, eating disorders, and tobacco use, as well as in Thailand. Nowadays, many researches have been done on the adolescent's brain and found that their brains are not fully developed, and that the frontal lobe which is responsible for the executive function (working memory, planning, and inhibitory control and shifting) will be fully developed at the age of 25. Moreover, there are evidence that music can improve executive function both in adults and children. Therefore, this present study aims to fill the gap by studying the executive function, especially switching task, in university students who major in music comparing with those of no music training using Stroop Color-Word test. The test was administered to 40 healthy participants, of which 20 are music students and the others are students with no music training. The result shows that students with music training performed better on incongruent condition of the Stroop Color-Word Test.

Keywords: Adolescence, Inhibitory Control, Shifting, Stroop Color-Word Test, Music

Introduction

Human development is considered a lifelong process because of a lot of changes that occur throughout one's life, for example, changes in physical, emotion, social, behavior, cognitive etc. Therefore a person experiences a numerous changes through their lives, from infant to childhood, childhood to adolescence, adolescence to adulthood and so on. The present study has been focusing on adolescence. Adolescence is a time of change including rapid growth and development. There are some interesting changes in the transition from childhood to adulthood including major development in behavior, cognition, and brain (Blakemore & Choudhury, 2006).

According to United Nations Population Fund or UNFPA (2014), there are 1.8 billion adolescents and youth nowadays, which is one quarter of the world's population. Also, WHO (2014) claims that, in Southeast Asia, there are about 350 million adolescents which is about 22% of world's population. Adolescents are considered a valuable asset to family, community, and the nations because they are our future. They shape the society and the economy development, and also they are building social's values and the foundation of the world future.

According to WHO, adolescents are faced with many risk factors including early pregnancy, HIV, violence, alcohol and drugs use, eating disorders, and tobacco use. United States Department of health and human services or USDHHS stated that 70 percent of illness, disability, and death among adolescents and young adults are resulted from adolescent's substance use, violent behavior, and suicidality. There is an estimated from the WHO that around 1.3 million adolescents died in 2012 and mostly from preventable or treatable causes.

Nowadays, many researches has been done on the adolescent's brain. In the past, people believed that adolescent's brain is as same as those of an adult. However, recent works showed the physical evidence from the Magnetic Resonance Imaging (MRI) that adolescent's brain is not a complete product but it is a work in progress (Ruder, 2008). The brain's frontal lobe which is responsible for reasoning, planning and judgment, or executive function, is not developed until in the 20s' and it is fully developed at the age of 25 (Casey, Tottenham, Liston & Durston, 2005; Paus, 2005). This is the reason why adolescents are more prone to risks.

Executive function is a cognitive process consists of 3 main sub functions which are working memory, inhibitory control, and shifting ((Zelazo & Muller, 2002). It is involve in a goal-directed behavior. For instance, one must represent the problem, then plan and organize, after that execute by using inhibitory control and shifting in order to complete a task. Executive function is believed to play a crucial role in adolescent's risky behaviors (Steinberg, 2007). To be specific, working memory, behavioral inhibition, and task switching may lead to a successful self-regulation, and that a reduction in executive functions could lead to risk factors, however, it has also been found that a training of executive functions can help improve poor self-regulation (Hofmann, Schmeichel & Baddeley, 2012).

Much has been done on music and brain. There are evidence that music can improve executive function both in adults and children (Wang, 2013; Moreno, Bialystok, Barac, Schellenberg, Cepeda & Chau, 2011). Researcher found that both adults and children with music training shows better cognitive flexibility. Also, for the adult, they are also better in working memory and verbal fluency. On the other hand, children with music training showed better processing speed and task switching (Zuk, Benjamin, Kenyon & Gaab, 2014).

There are evidence of music training for both adults and children. Unfortunately little has been known about adolescent, or to be specific, the undergraduates. Therefore, this present study aims to fill the gap by studying the comparison of the inhibitory control and shifting between undergraduate students in music and non-music program.

Materials and Methods

Subjects
Forty volunteered university students (20 males and females) participated in this study. The Musicians group consists of 20 students from College of Music, in which there are 10 males and females each. The Non-musicians group consists of 20 students from any other faculty, which also comprises of 10 males and females each. Inclusion and exclusion criteria are as listed below.

Inclusion criteria
- Gender: Male and Female
- Age: 18 to 25 years old
- Thai nationality
- Full time student (Mahidol University)
- Both physically and mentally healthy
- Normal or corrected visual acuity
- Normal hearing
- Consent to participate in the study

Exclusion criteria

- Exchange students
- Brain dysfunction
- Mental disorder
- Special needs children
- Those who do not meet with the criteria

Materials and Procedure

The questionnaire
The questionnaire was designed to collect subjects' background information and to recruit the sample based on the interest of this study and to meet with the criteria of this study. The questionnaire was categorized into 3 sections; subject's general background information, health history and musical instrument training or experiences.

The Stroop Color-Word Test

The Stroop Color-Word Test is a quick and popular instrument used to measure cognitive functioning (Wim Van der Elst, Martin P. J. Van Boxtel, Gerard J. P. Van Breukelen, Jelle Jolles, 2014). There are many different versions of the Stroop test. They varies in colors, numbers of the test items, subtests and procedure. However, the basic concept still remains the same for every version, that is an individual is required to response to stimulus, in which there are two kinds of them. First is a basic task where an individual reads the word that they see and then response, and the second is a similar one where an individual has to inhibit themselves from doing an usual action which is reading but instead they have to think promptly and then response to the color of the ink that the word is printed in and not the word itself. The time used to do the second task is compared to the first and is called the Stroop interference effect and is known as a measure of cognitive flexibility and control or executive function. The Stroop test used in this study is a Computerized Stroop Color-Word Test version or CSCWT. The entire test is done on the computer; the subject reads word from a computer screen and then response by pressing different buttons on a separate device. The total time used in this computer version is precisely 10 minutes.

Results and Discussions

In this study, we compared twenty university students from the College of Music (the musicians) to a control group of twenty university students from other programs of study (the non-musicians). The age range of all subjects is between eighteen to twenty-five years old (Mean=21.20 SD=1.85), with the musicians group, the age range is between 18.03 to 23.05 years old (Mean=20.20 SD=1.17), and with the other, is between 19 to 24.08 years old (Mean=22.20 SD=1.88).

For the musicians group, the questionnaire had been sent out to acquire the information about their musical experiences and preferences. The questionnaire revealed that all student has been playing music for more than four years, with the minimum of five and the maximum of seventeen years, to which the least experienced player had started playing at the age of fourteen, and all have been playing continually. Moreover, it showed that 10 percent of all student had started playing music before the age of five, 85 percent before the age of thirteen, and only five percent had started later after fourteen years old.

As for the preferences of music, it has been shown that 85 percent of the students are majored in classical music instruments such as violin, clarinet and piano. Violin shows the most popularity of 30 percent, whereas clarinet is 20 percent, piano is 15 percent, and other musical instruments such as oboe, saxophone and guitar have 10 and 5 percent respectively. On the other hand, it reported that 15 percent of the students majored in Thai music instruments, of which 10 percent play a Thai dulcimer (Khim), and 5 percent play a Thai alto xylophone (Ra-nard-ak). Furthermore, the questionnaire has reported their hours of practice. It shows that half of all the students practice their music every day for a period of time ranging from ten minutes to eight hours (Mean=2.50, SD=1.94). On the other hand, the rest of the students practice their music once or twice a week, three to five times week and once or twice a month.

The executive functions, behavioral inhibition and task switching, to be exact, had been assessed by the computerized version of Stroop color-word test, which later had been calculated by using the independent sample t-test in order to find significant differences of the mean score between the two groups.

Figure 1: Stroop scores – comparison between the two groups on the total correct incongruent
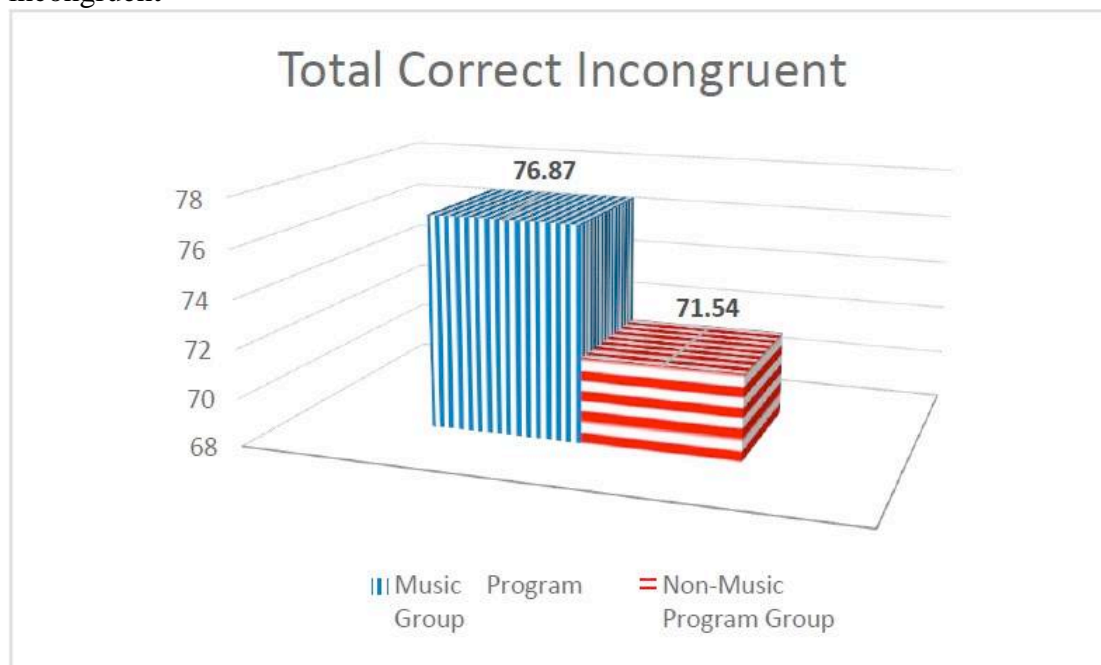
As shown in figure 1, students in music program received higher scores than the non-music program students in the total correct incongruent with no statistically significant differences. The mean score of students in music program group and the non-music program group on the total correct incongruent were 76.87 and 71.54 successively. However, there showed no statistically significant differences between the music program group and the non-music program group on the scores of the total correct congruent. Moreover, the test results revealed that the non-music program group took more time to response during the test in both congruent and incongruent conditions. As for the congruent condition, the non-music program group spent 543.57 ms. while the music program group spend 534.28 ms. on the same task. Meanwhile, for the incongruent condition, the non-music program group spent 524.29 ms. and the music program group spend 502.24 ms. Therefore, it has been found that for both groups, the music and the non-music groups, spend more time on the congruent condition than the incongruent.

According to this findings, the results is quite consistent with the previous work on music effects on executive functions, however, there are slightly differences on some issues which will be discussed later below.

Consistent with the previous works on music effects on executive functions, it has been found that an individual with music training is better cognitive flexibility, working memory and task switching (Zuk, Benjamin, Kenyon & Gaab, 2014).

Furthermore, one of the studies showed that musicians performed better than the non-musicians in both executive function tasks; the Simon task and the Stroop task, also, the extended musical experiences has proved to be able to enhance executive control (Bialystok & DePape, 2009).

However, the present findings showed that the scores of the Stroop color-word test on the incongruent trials were higher than the congruent trials; moreover, the reaction time spent was longer in the congruent trials, which is not consistent with the previous studies. According to J. R. Stroop (1935), the Stroop effect found that a person's performance is poorer in the incongruent trial than in another; furthermore, it takes a person longer to name the display color of a word (incongruent) than to name the color word itself (congruent), in which could be explained that human's reading ability has taken place so often that the process has become automatic (MacLeod, 1991). Notwithstanding the inconsistency, there has not been much work done on the Stroop effect in Thailand, it could also be suggested that background culture, language, or society may play a role in the differences of the outcomes, and that further studies on the Stroop effect in Thailand will be very much useful for a better understanding.

Conclusion

This present study was designed to examine the influence of music training on executive functions, specifically on behavioral inhibition and task switching which are two of the basic characteristics of executive functioning, among university students (young adults) who are studying in the music and non-music programs. By adopting the computerized version of the Stroop color-word test, which is an instrument used to measure cognitive functioning especially the behavioral inhibition and task switching, we compared the total mean scores on the Stroop test between the two groups and applied the independent sample t-test to find significant differences. The results showed that there was no statistically significant differences on the mean scores of the total correct congruent between the music program group and the non-music program group. However, in the total correct incongruent, the music program group received a better score than the non-music program group. It can be concluded that this findings is mostly consistent with the previous studies on the effects of music on executive functions. This study suggests that studying and understanding of human development is important and beneficial in order to understand changes of every aspect of human life and to be able to help or improve one to completely and appropriately develop one self.

Acknowledgement

References

Bialystok, E., DePape, A. (2009) Musical expertise, bilingualism, and executive functioning. *Journal of Experimental Psychology: Human Perception and Performance,* 35(2):565-574.

Blakemore, S. J., Choudhury, S. (2006). Development of the adolescent brain: implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry*, 47(3/4):296–312.

Casey, B. J., Tottenham, N., Liston, C., Durston, S. (2005). Imaging the developing brain: what have we learned about cognitive development? *TRENDS in Cognitive Sciences,* 9(3):104-10.

Hofmann, W., Schmeichel, B. J., Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Sciences,* 16(3):174-180.

MacLeod, C. M. (1991). Half a century of research on the Stroop effect: An integrative review. *Psychological Bulletin*, 109:163–203.

Moreno, S., Bialystok, E., Barac, R., Schellenberg, E. G., Cepeda, N. J., Chau T. (2011). Short-term music training enhances verbal intelligence and executive function. *Psychological Science*, 22(11):1425-1433.

Paus, T. (2005). Mapping brain maturation and cognitive development during adolescence. *TRENDS in Cognitive Sciences*, 9(2):60-68.

Ruder, D. B. (2008). The teen brain: A work in progress. *Harvard Magazine*, 111(1):8-10.

Steinberg, L. (2007). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28(1):78–106.

UNFPA (Report of the Advisory Committee for the International Youth Year (A/36/215 annex)). Retrieved from http://www.unfpa.org/sites/default/files/resource-pdf/One%20pager%20on%20youth%20demographics%20GF.pdf.

Van der Elst, W., Van Boxtel, M. P. J., Van Breukelen, G. J. P., Jolles, J. (2006). The stroop color-word test influence of age, sex, and education; and normative data for a large sample across the adult age range. *Assessment*, 13(1):62-79.

Wang, Y., Xei, L., Zhu, B., Liu, Q., Dong, Q. (2013). It matters when you start: The age of onset of music training predicts brain anatomy. Program No. 765.07, *Neuroscience*, Abstracts, San Diego, CA: Society for Neuroscience, Online.

WHO – Adolescents: health risks and solutions fact sheet updated May 2014. Retrieved from http://www.who.int/mediacentre/factsheets/fs345/en/.

Zelazo, P. D., Müller, U. (2002). Executive function in typical and atypical development. In U. Goswami (Ed.), *Handbook of childhood cognitive development*, Oxford:Blackwell:445-469.

Zuk J., Benjamin C., Kenyon A., Gaab N. (2014). Behavioral and neural correlates of executive functioning in musicians and non-musicians. *PLoS ONE,* 9(6):e99868.

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A Study of Using Muscle Relaxation and Music on Aggressive Behaviors of Schizophrenic Patients, Sakaeo Rajanakarindra Psychiatric Hospital

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Abstract

The purpose of this study was to compare the aggressive behaviors of schizophrenic patients before and after receiving muscle relaxation and music program. The samples of this study were 20 schizophrenic patients from Sakaeo Rajanakarindra Psychiatric hospital, who met the inclusion criteria. Instruments for this study were muscle relaxation and music program for schizophrenic patients, overt aggression questionnaire. They were examined for content validity by three professionals and reliability test for the questionnaire. The reliability of the questionnaire was .85. Statistical techniques for data analysis were percentage, mean, standard deviation and paired t - test. The major findings were as follow: The aggressive behaviors of schizophrenic patients after using muscle relaxation and music program were significantly lower than before receiving it at the significance level of .05.

Keyword: muscle relaxation /music/aggressive behaviors /schizophrenic patients

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Introduction

The statistic from the Department of Mental Health, Ministry of Public Health, reported that there were 335,202 admitted schizophrenic patients in 2005 - the majority, 172,648, were suffered from schizophrenia (Department of Health, 2005). Schizophrenia is one of the major psychiatric disorders because it is the most severe mental illness. The extent behavior in schizophrenic patients is aggression (Kotchaphong Sarakan, 1999).The behavior of the schizophrenics is a condition that represents an unusual idea, emotion, and behavior; shows disabilities of controlling his/her emotion; harms him/herself, others, and stuffs; is needed to get a rapid assistance; and must be treated in a hospital. (Chawiwan Sattayatham, 1997).The most common cause of the behavior derived from mental and environmental conditions. Those of mental conditions are those who symptomize the acute phase (Barnett, 2002); becoming aware of hallucination heard by ears which orders the patients to commit suicide,leading them into a paranoid delusion, being afraid of attack, and in a state of confusion (Duangta Kulrattanayan, 1998).However, those of the environment conditions consist of both externaland internal circumstances. The former is noise and the latter is too-strict rules and regulations,too-crowded ward,and air flow (Manot Lotrakun, 1996).

Schizophrenics' aggression, occurring in the wards, whether caused by mentality or environment,can result in these following problems, for instance, a badly-injured patient can be brought to death (Somphop Rueangtrakun, 2002; Cardwell, 1984), or frighten the others, or damage property (Niran Wichienthong, 1998).Plus, the impact on personnel is being maltreated by the patients, which chiefly happens during dealing with the patients and makes them feel anxious, wants to get away from work, even becomes panic and discouraged workers (Thira Lilananthakit, 2541),accordant with the study of the Rose (1992) of which studied the violence towards the staffs in the ER, St. James's Hospital, Ireland. The result shows that after having been as saulted; the staffs get anxious, being afraid of being hurt again. Furthermore, they want to take a vacation or sick leave and quit their job (Lanza, 1992). In addition, the conducts impair the surroundings such as beds, chairs, and food containers, etc. (Tame, 1990). If some of them do not stop the behavior, they may hurt themselves (Chintana Yuniphan, 1984). If unable to cope with the patients, they will get stressed from it (Peter, 2002), resulting in injuring other patients, personnel, and property.

Sakaeo Rajanagarindra Psychiatric Hospital, Department of Mental Health, Watthananakhon District, Sakaeo, characterizes mental health and psychiatry. It is responsible for the care of people with mental health problems and substance abuse in the form of promotion and prevention of mental health problems, treating those who are afflicted with psychosis, and rehabilitating psychotherapy patients. According to the statistic, it determined that, in fiscal year 2548, a total number of admitted schizophrenics were 1,123; schizophrenics as 582 or 51.9 percent. The patients with the violence of damaging property and harming others, were 84 which is equivalent to 14.43 percent. It is seen that there are such many patients with aggression that it can cause harm themselves and others, resulting in the rate of longer admitting and economy loss.

Therefore, the researcher is concerned in using muscle relaxation with music to reduce aggressive behavior in the schizophrenics, agreeing with the role of the hospital, where takes the innovation into action, based on the reviewed research and theory along with the expertise to provide nursing care to let the patients to be able to control and reduce their behavior, to offer the intensive rehabilitation therapy, or co-exist with their families and communities further.

Research Objective

To compare the aggressive behavior in patients afflicted with schizophrenia before and after using muscle relaxation with music

Hypothesis

The aggressive behavior in patients with schizophrenia reduces after using the muscle relaxation with music.

The Scope of the Study

1. The population was the patients who had been diagnosed to be schizophrenics, according to the International Classification of Diseases, Tenth Edition (ICD-10), and have aggressive behavior.

2. The sampleswere20 inpatient schizophrenics at Psychiatric Ward, Sakaeo Rajanagarindra Psychiatric Hospital. The researchers used the questionnaire of violence. The study showed that the behavior was moderate (range 25-36 points) with no delusion or hallucination, but capability of communicating with others and no organic mental disorders or serious complications.

3. Variables in the study
The independent variable is the program of muscle relaxation with music.
The dependent variable is the aggressive behavior.

Expectedly Received Benefits

1. To be a method of improving nursing practice in order to help schizophrenics with aggressive behavior.

2. To be a study or research guide to develop knowledge in the field of mental health and psychiatric nursing.

3. To be an approach to improve health care system, nursing service system, and the role of the nurse; using empirical data to be the leader in the field of nursing.

Conceptual framework

To develop the program, the researchers employed a combination of approaches derived from the study of Phatchara Phumphachat (1990), which is the study of music in company with the study of Lance (1982) in the use of muscle relaxation.

> **Muscle relaxation program with the use of music** was divided into 6 group work:
> **Activity 1:** Creating a therapeutic relationship: notifying the objectives and methodology, inquiring and responding, and evaluating the behavior
> **Activity 2:** Muscle relaxation: teaching how to relax the muscle and practicing
> **Activity 3:** Listening to soothing music
> **Activity 4:** Percussing based on rhythm
> **Activity 5**Singing based on rhythm and melody

→ **Aggressive behavior**

Methodology

This study was the One Group Pretest-Posttest Design to study the effect of muscle relaxation with music on the reduction of aggressive behavior in schizophrenics, both before and after use.

The population was the patients who had been diagnosed to be schizophrenics, according to the International Classification of Diseases, Tenth Edition (ICD-10), and admitted at Psychiatric Ward, Sakaeo Rajanagarindra Psychiatric Hospital.

The samples were 20 inpatient schizophrenics at Psychiatric Ward, Sakaeo Rajanagarindra Psychiatric Hospital.

Instruments

The instruments consisted of 2 sets as follows:

1. The instrument conducted in the experiment:
The program of using muscle relaxation with music towards aggressive behavior in patients with schizophrenia developed by Groatein and Foa's concept (1980), for relaxing the muscle, combined with Phatchara Phumphachat's (1990), which related to the use of music therapy on reducing aggressive behavior, into the activities. The objective was to study the use of the program towards the reduction the behavior in schizophrenics at Psychiatric Ward, Sakaeo Rajanagarindra Psychiatric Hospital.
The brief content is as follows:

Activity 1 Creating a therapeutic relationship: Icebreaking, the assessment of aggressive behavior, clarifying and answering questions individually about the purpose and methodology, and setting the rules and the role of the group.

Activity 2 Muscle relaxation: the nurses teaching and demonstrating the activity: relaxing the muscles by letting the patient practice contracting and relaxing the body muscle one by one with 30 minutes each and finally drill together to help reduce anxiety level and stress, improve the personality, consciousness, confidence and self-acceptance. The muscles were divided into 4 groups. The first was hand, forearm, and deltoid muscles. The second was head, face, neck and shoulders with an emphasis on the forehead, cheeks, nose, eyes, jaw, tongue, lips and throat. The third was chest, abdomen and lower back. The last was hip, thigh, calf and foot. Being relaxed can help think more logically and make a better decision than being tense. This will enable better relationship with others.

Activity 3 Listening to soothing music: as the members sat in a circle and in a relaxed posture, the leader played the song, letting them give feedbacks - benefit and suggestion –to generate concentration, memory, and distracting from what the patient attached to;to reduce emotional and psychological stress; to build the relationship among the group; and to motivate themselves.

Activity 4 Percussing based on rhythm: having them seated abreast in the same direction, the leader spread the percussions to all of them, beat the rhythm, and let the members percuss along. Afterward, the leader played the song and let the members do the same. This is to allow the patients to express their emotion, their senses through external obstacles - the provided instrument, thus enjoying and being happy with their abilities as well as reducing tension and aggression.

Activity 5 Singing aloud rhythmically: after having the patients seated abreast in the same direction, the leader managed each member to sing karaoke from their own selected songs. The leader assigned the remaining to play the role of the audiences, and gave an opportunity to freely participate with the singer. Both the leader and the members wrapped-up. This is to offer the opportunity to voice their own pace creatively to drain their heart strains by using singing rhythmically to reduce the pressure driving to the behavior in the patients.

Activity 6 Performing movement with music: turning on the music, the leader let each of them, as a representative, lead each round of the show while the others follow each of the agents. When finished, in order to opportune the patients to move in a different manner, which is catalyzed by the rhythm and melody, to gain more amount of oxygen, the patients learned how to corporate the body with the mind, leading to suitable mood adjustment and better temper control.

The process of selecting the music for the program

1. studied the general component of music and the component specialized for schizophrenics.

2. selected the song which would be used in all of the 6 activities.

The researchers selected soothing music, which composes of these following characteristics (Phimphon Lilawatthanakun, 2003):

1) Rhythm:it is characterized by a slow, stable tempo which makes sense of calm, and helps to relax (Chomnapha Kittisap, 1993, Saowani Sangkhasopon, 1994).

2) Pitch: the pitch at a slow rate will cause tranquil emotion (Chomnapha Kittisap, 1993). The music should have low volume or soft bass (Saowani Sangkha Sophon, 1994), so that it makes listeners feel relaxed and calm.

3) Volume Intensity: the volume of the sound will cause mild peace (Saowani Sangkhasophon, 1994). Listening to the soothing music should be in the range of 40-60 dB, not exceed 90 decibels, because of its discomfort (Chaln, 1998, quoted in Phimphon Lilawathanakun, 1993). Receiving the sound near the ears with a very loud voice could harm the eardrum and lead to deaf (Shealy, 1996, Phimphon Lilawatthana, 2546), so that the selected song will be produced at 40-60 decibels.

4) Melody: it means taking a different tone to the same sort concordant, regarding to the length of each sound. Melody is an extension of musical ideas similar to the words of a sentence or a phrase itself. Musicians convey their feeling and emotion through melody. Good melodious creation is often caused by a composer's an internal motive (Phichai Pratchayanuson, 1991 cited in Phimphon Liwatthanakun, 1993). As a result, it promotes thinking creatively; expressing feelings deep inside; creating the relationship amidstthe patients; or helping reducing anxiety in those who are anxious (Chomnapha Kittisap, 1993).

5) Tempo: it refers to the rate of beats of a specific song, usually measured by a number of times per minute on average. In one stroke, the speed is between 50-120 mm (mm = metronome measurement).The feature of the rhythm of soothing music has a slow tempo in the range of 60 beats per minute approximately (Hicks, 1992, quoted in print Phimphon Lilawatthanakun, 1993) or 70-80 times per minute (as in value ofheart beat), causing a feeling of peace, relaxation, lack of tension (Johnston and Rohaly - Davis, 1996 quoted in Phimphon Lilawatthanakun, 2546), so that the nature of the selected music will contain the slow pace in the range of 70-80 beats per minute.

6) Sonority: a component that tells whether the complete sound inside each sound of each phrase is resonant at the appropriate level (Chomnapha Kittisap, 1993).

7) Expression of music: music and lyrics can express many feelings and emotions - love, sadness, happiness, or humor, etc. (Sukri Charoensuk, 1989). Music is the language of emotion, and it expression is considered its heart, which allows audiences understand and impress acutely and its atmosphere (Bang-on Khrietchaiyaphum, 1990), so that the music chosen to engage in the program is natural to let the aggressive schizophrenics express their feelings and emotions by using the slow rhythm to induce a sense of calm and relaxation.

3. The experts carefully considered the selected songs before taking into action.

Summary of the Process of the Study

Data Analysis

Preparation Stage

The tools 1. The program of muscle relaxation with music 2. The questionnaire of aggressive behavior	**The location** Ask for cooperation from the director of Sakaeo Rajanagarindra Psychiatric Hospital to study and collect data	**The experimenter, the study assistant and the samples** 1. Train the psychiatric patients for 45 days 2. Train the assistant about the methodology and how to use the questionnaire

Select the samples from the specified criteria Aggressive behavior (Pre-test)

Experimental Stage (2 weeks) The aggressive patients were experimented by the program as follows: Activity 1 Creating relationship and collaboration Activity 2 Muscle relaxation Activity 3 Listening to soothing music Activity 4 Percussing Activity 5 Singing Activity 6 Performing musical movement

Evaluation (Post-test) After 1 week, evaluate the behavior of the participants

Part 1 Overview of the patients

Table 1 The number and the percentage of the samples who were programmed, classified by gender, age, marital status, and education level.

Personal Information	The number (people) (N = 20)	Percentage
Gender		
Male	10	50
Female	10	50
Age		
15-25 years old	6	30
26-35years old	7	35
36-45years old	5	25
46-59 years old	2	10
Marital Status		
Single	9	45
Married	7	35
Widowed	1	5
Divorced	3	15
Educational Level		
Below Primary School	2	10
Primary School	8	40
Secondary School	6	30
Diploma	4	20
Bachelor Degree	0	0

As mentioned in Table 4, all 20 participants in the study were 50 percent as the male, and the rest as the female. Most aged between 26-35 years old or 35 percent and 15-25 years old or 30 percent. 45 percent were single and 40 percent graduated the secondary school level respectively.

Table 2 The number and the percentage of the samples who were programmed, classified by occupation and the genre of their favorite music

Personal Information	Number (people) (N = 20)	Percentage
Occupation		
Unemployed	1	5
Hired	10	50
Merchant	4	20
Agriculturist	5	25
Civil servant	0	0
Genre of their favorite music		
String	4	20
Country	15	75
Thai classical music	1	5

As seen in the table above, the samples were hired which was equivalent to 50 percent and agriculturists which was equivalent to 25 percent. The majority preferred listening to country music as75 percent, followed by String as great as20 percent.

Part 2: The comparison of the mean of aggressive behavior in the patients before and after using the program of muscle relaxation with the use of music towards reducing aggressive behavior of schizophrenics

Table 3 The comparison of the difference in the mean of aggressive behavior in the patients in all aspects and individually both before and after the study

Aggressive behavior	Pre-Test (n=20)		Post-Test (n=20)		t
	$\overline{X}$	SD.	$\overline{X}$	SD.	
Oral violence	8.45	0.94	4.75	0.96	14.09*
Physical violence towards damaging things	6.55	0.94	3.25	0.91	13.65*
Physical violence towards others	7.10	1.11	3.45	0.88	14.98*
Physical violence towards him/herself	6.75	1.11	3.1	0.96	16.52*
Total	28.85	3.18	14.55	2.78	23.05*

*$p < .05$

As indicated in Table 6, the result revealed that the mean of the aggressive behavior of the schizophrenics from the pre-test and post-test had a different level of statistical significance at.05. Considered individually, the mean of verbal violence, physical violence towards others, physical violence towards damaging things, and physical aggression towards him /herself showed the different level of significance at .05.

Conclusion

The mean of the aggressive behavior in patients with schizophrenia lowered after receiving the program of muscle relaxation with music at the statistical significance level of .05. It can be concluded that the schizophrenics, who have been received the program of muscle relaxation with music, had reduced aggressive behavior, complying with the hypothesis.

Discussion

The findings showed that the aggressive behavior of schizophrenics who received the muscle relaxation with music towards aggressive behavior reduced after the pre-test with the statistical significance level of .05. Considering the aggressive behavior of the schizophrenics regarding each criterion, the mean of oral aggression; physical aggression towards others; physical aggression towards stuffs; and physical aggression towards him/herself was different at the significance level of .05. Considering individual items, the patients mostly pretended to perform shadow-boxing, caught their clothes, scratched their skin, hit themselves, pulled their hair (unhurt or slightly injured), shouted at others with less-strict words - such as Fool! -, made a loud noise, shouted angrily, and pounced his/her head or things respectively. Similarly, the mean of aggressive behavior of the post-test, regarding each criterion, revealed the same result.

According to the current situation of nursing care, the patient is admitted a hospital only in the short term. When the psychological symptoms subside, they will be discharged. And from the nurses' working habits which aim only to finish each routine, it brings about less relationship with the patients, and lack of relaxing tension which leads to aggressive behavior. However, if the program is used in conjunction with the nursing care each day, the patients will practice building relationship skills, learn how to relax, and to be assertive in a positive way. As a result, the interaction with others is crucial to schizophrenics because the chronic schizophrenics lack it, losing self-confidence, getting stressed, and eventually causing aggression. This is consistent with the study of Wilson & Kneisl (1996), which found that the psychiatric patients face the problem of dealing with everyday life to be balanced on account of being alone and interacting with others – especially their intimate - practicing relaxation skills, reducing the incentives that cause the behavior by using music to help keep the patients calm and concentrate more, thus getting relaxed.

This is also compatible with the study of Cook (1981), which found that listening to music helps keep calm and reduces anxiety. In cancer patients while being received radiation treatment, Moss (1988) found that sedative or soothing music affected the anxiety level of the patients who were undergone bone joint operation with anesthesia. Synder (1992) noted that music could directly affect the sympathetic nervous system, influencing the brain that is responsible for the emotional experience, including the limbic system, reacting physically and mentally along the music. Phatchara Phumphachat (1990) researched the use of music in reducing early-childhood students' aggressive behavior and compared the findings of the activities accompanied with the music with the normally creative activities towards the reduction of the students' aggressive behavior. It was found that their behavior decreased significantly. In contrast, their creative activities increased.

Therefore, we conclude that aiding the schizophrenic patients with aggressive behavior by using the program of muscle relaxation with the use of music towards the reduction of their aggressive behavior resulted in reducing the behavior effectively. The nurses not only provide nursing care on a daily basis, but also must be aware of the patients' mental status during being treated in an unfamiliar place or person, which can lead to tension and pressure on many things. What makes it better is a matter of relativity and relaxation. The patients' comments about their needs or recognition of their values and capabilities enabled the nurses to response their needs suitably, ending in the safety of both patients and their property for treatment.

Implication

1. To make an effective use, users must possess the basic knowledge of psychiatric and mental health nursing, and the ability of muscle relaxation and music therapy, as well as the basis of group remedy.

2. Prior to the implication, personnel are required to be trained the skills of muscle relaxation and music therapy for psychiatrics; should review the problems and needs of the patients and an appropriate genre.
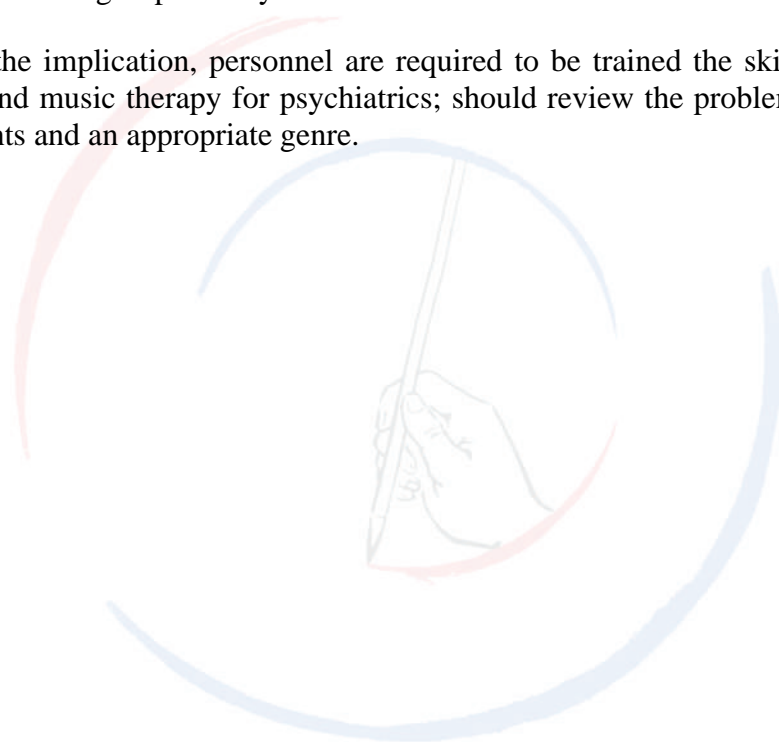
Reference

Bandura, A. 1986. Social foundation of thought and action : A social cognitive theory. New Jersey : Prentice - hall.

Barnett, R. 2002. Improving the management of acute aggression in state residential and Inpatient Psychiatric Facilities. Child Adolesent Psychiatric. 4(8) : 897 - 905.

Brown, G. L., Goodwin, F. K., Ballenger, J. C., *et al* .1979. Aggression in humans: correlates with cerebrospinal fluid amine metabolites. *Psychiatry Research*, 1, 131-139.

Cook, T.H. 1998. The effectiveness of inpatient case management fact or fictian. Journal of Nursing Administration**.** 28(4) : 36 - 45.

De Sousa A.2005.The role of music therapy in psychiatry.India.

Frese,J.1993.Coping with schizophrenia.Internet Mental Health.Innoventions&Research,2.

Hamer,BA.1993.Music therapy : harmony for change.Journal of Psychosocial Nursing Mental Health Service,31.

Jones, G., Zammit, S., Norton, N., *et al* .2001. Aggressive behaviour in patients with schizophrenia is associated with catechol-*O*-methyltransferase genotype. *British Journal of Psychiatry*, 179, 351-355.

Kevin, H.,Andrew, D., & Susan, J. 2002. Anger management and ViolencePrevention : Improving Effectiveness. Trends and Issue in Crime and Criminal Justic. 227 : 1 - 6.

Lindberg,A.1998.Music therapy and mental health illness. http.//www.members.com. aol. com/kathysl/def.html.

Lance.1982. Effects of active versus passive group music therapy on tention headach.Journal of Music therapy.

Monahan, J., Steadman, H. J., Appelbaum, P. S., *et al* .2000. Developing a clinically useful actuarial tool for assessing violence risk. British Journal of Psychiatry, 176, 312-319.

Montello,L. & Coons,EE.1999.Effects of active versus passive group music therapy on preadolescent with emotional,learning,and behavioral disorder.Journal of Music therapy,35,49-67.

Navaco, R. 1976. The function and regulation of arousal of anger. American Journal of psychiatric. 133(10) : 1124 - 1127.

Pavlicevic, M.; Trevarthen, C. & Duncan,J. 1994. Improvisational music therapy and the rehabilitation of person suffering from chronic schizophrenia. Journal of Music therapy, 31, 88-104.

Rickelman, B.L. 1997. Aggressive and violent behavior. In Johnso, B.S. : Adaptation and growth psychiatric metnal health nursing. Philadelphia : Lippincott.

Rickson DJ, Watkins WG. 2003. Music therapy to promote prosocial behaviors in aggressive adolescent boy--a pilot study.Halswell Residential College,Christ Church, New Zealand.

Rose, M. 1997. A survey of violence toward nursing staff in one Large lrish and emergency department. Journal of Emergency Nursing. 23(3) : 214 - 219.

Sanders, J., Milne, S., Browne, P., et al .2000. Assessment of aggression in psychiatry admissions: semistructured interview and case note survey. BMJ, 320, 1112.

Schanda, H. & Taylor, P. 2001. In-patient violence: frequency, risk factors, preventive strategies(in German). Fortschritte Neurologie Psychiatrie, 69, 443-452.

Silverman MJ. 2006. Psychiatric patient'rerception of Music therapy and other psychoeducational programming. Florida State University, USA.

Soyka, M. & Ufer, S. 2002. Aggression in schizophrenia: prevalence, psychopathological and sociodemographic correlates (in German). Fortschritte Neurologie Psychiatrie, in press.

Steadman, H. J., Mulvey, E. P., Monahan, J., et al . 1998. Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods.Archives of General Psychiatry, 55, 1-9.

Steadman, H. J., Silver, E., Monahan, J., et al .2000. A classification tree approach to the development of actuarial violent risk assessment tools. Law and Human Behavior, 24, 83-100.

Swanson, J. W., Swartz, M. S., Borum, R., et al . 2000. Involuntary out-patient commitment and reduction of violent behaviour in persons with severe mental illness. British Journal of Psychiatry, 176, 324-331.

Tang, W.; Yao, X Zeng, Z. 1994. Rehabilitation effect of music therapy for residualschizophrenia:A -month randomized controlled trial in shanghai. British Journal of Psychiatry, 165, 38-44.

Wallace, C., Mullen, P., Burgess, P., et al . 1998. Serious criminal offending and mental disorder.Care linkage study. British Journal of Psychiatry, 172, 477484.

You ZY, Wang JZ. 2002. Meta-analysis of assisted music therapy for chronic schizophrenia. Shandong University. China.

Yudofski, S. C., Silver, J. M., Jackson, W., et al . 1986. The Overt Aggression Scale for the objective rating of verbal and physical aggression. American Journal of Psychiatry, 143, 35-39.

Yudofsky, S., Silver, J.M., & Jackson, W. 1986. The overt aggression scale for the objective rating of verbal and physical aggression. American Journal of Psychiatry. 143(1) : 35 – 39.

Zillmann, D. 1979. Hostility and aggression. New York: John Wiley & Sons.

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The Relationships Among Learning Support Needs, Self-Regulated Learning Strategies, Study Time, and Test Scores in Learning Chinese

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Abstract

The purpose of this study was to examine relationships among basic psychological needs, learning support needs, self-regulated learning strategies, study time, and test scores in Japanese learners of Chinese. Self-determination theory posits four psychological needs: "curiosity", "autonomy", "competence", and "relatedness". This study explored the relationships among the four psychological needs' satisfaction, learning support needs' satisfaction in Chinese classes, Chinese learning strategies, and performance based on self-determination theory and self-regulated learning theory.

First year and second year Japanese university students ($N = 219$) completed questionnaires regarding studying the Chinese language and took examinations in Chinese. Learning support needs contained six subscales: "conversation", "vocabulary", "culture and history", "cooperative approach", "communicative approach", and "grammatical approach". Language learning strategies contained six subscales: "remembering", "cognitive", "compensating", "metacognitive", "affective", and "social".

The results showed that "communicative approach" and "grammatical approach" were positively related to study time and test scores. Three psychological needs, "curiosity", "autonomy", and "competence", were positively related to study time and test scores. Five learning strategies, "remembering", "cognitive", "compensating", "metacognitive", and "affective", were positively related to study time. Just one learning strategy, "cognitive", was positively related to test scores. A relationship between study time and test score was not found. These findings clarified significant motivational factors in learning Chinese. Implications for educational practice were discussed from the view of self-regulated learning and self-determination theory.

Keywords: basic psychological needs, learning support needs, learning strategies, learning Chinese

Introduction

The purpose of this study was to examine causal relationships between learning support needs, basic psychological needs, self-regulated learning strategies, study time, and test scores in Japanese learners of Chinese. A few studies have examined Chinese learning in Japanese students, based on the Self-Determination Theory (Ryan & Deci, 2000) and Self-Regulated Learning Theory. Self-Regulated Learning (Schunk & Zimmerman, 2008) has stressed the importance of autonomous motivation and learning strategies. This study postulates causal relationships among autonomous motivation, learning strategies, and academic performance.

International educational research has increasingly been using the concept of "Self-Regulated Learning" (Zimmerman & Schunk, 2001). Zimmerman (1989) stated, "in general, students can be described as self-regulated to the degree that they are metacognitively, motivationally, and behaviorally active participants in their own learning process". Metacognitively, self-regulated learners are people who plan, self-monitor, and self-evaluate at various stages during the learning process. Motivationally, self-regulated learners perceive themselves as competent, self-efficacious, and autonomous. Behaviorally, self-regulated learners select, structure, and create social and physical environments that optimize learning.

Zimmerman (1989) stressed the importance of three elements in self-regulated learning: self-regulated learning strategies; self-efficacy; and commitment to academic goals. Self-regulated learners use self-regulated learning strategies for reaching academic goals. As a result, if they perform better, they display higher self-efficacy. Self-efficacy increases their motivation for learning, and learners continue using self-regulated learning strategies for acquiring more knowledge and skills.

In addition, Self-Determination Theory has stressed the importance of four elements in academic motivation; curiosity, autonomy, competence, relatedness. The influences of these basic psychological needs' satisfaction should be examined in detail. The research on self-regulated learning and self-determination theory has been examined in various subjects: mathematics, science, social studies, and verbal subjects. But research on second languages isn't sufficient, especially in Japan. One purpose of this study is to examine the mechanisms of self-regulated learning in learning a second language.

In addition, previous studies on self-regulated learning had only investigated motivation and learning strategies. But, the learning support needs must play an important role in self-regulated learning of a second language. Analyzing the relationships among learning support needs, basic psychological needs, and learning strategies, performance will produce meaningful suggestions for language learning. In addition, this study has focused on two aspects of learning support needs, i.e. "contents of the lessons" and "instructional strategies". Previous research found that "contents of the lessons" consisted of three learning support needs: "conversation", "vocabulary", "culture and history". Chinese education in Japan has used various instructional strategies. For example, there are the "cooperative approach", "communicative approach", and "grammatical approach". It is necessary to examine what kinds of needs students have and they are motivated through these needs' satisfaction.

Clarifying the relationships among two aspects of learning support needs, basic psychological needs, and learning strategies, study time, and test scores will produce meaningful suggestions for language learning and instruction.

Method

Participants

First year and second year Japanese university students ($N = 219$) completed questionnaires regarding studying the Chinese language and took examinations in Chinese.

Procedure

All students were asked by their teachers to complete a questionnaire in Japanese. The students who agreed to participate completed the questionnaires and took Chinese examinations. Chinese examinations took five minutes, and after that the students completed the questionnaires for about fifteen minutes in each group.

Measures

Learning support needs' satisfaction: "Contents of the lessons". This scale contained three subscales: included "Conversation"(e.g., "I could learn tips about the rhythms of speaking."; 5 items), "Vocabulary" (e.g., "I could learn new words in each category, and each kind of parts of speech."; 6 items), "Culture and history" (e.g., "I could learn Chinese history and geography."; 5 items). For each subscale, students rated items on a 5-point scale ranging from 0 (*not at all true of me*) to 4 (*very true of me*).

Learning support needs' satisfaction: "Instructional strategies". This scale contained three subscales: "Cooperative approach"(e.g., "I could study practicing in a pair or small group."; 5 items), "Communicative approach"(e.g., "I could learn practical expressions and practice them."; 6 items), "Grammatical approach"(e.g., "I could study Chinese to understand grammar well enough."; 5 items). For each subscale, students rated items on a 5-point scale ranging from 0 (*not at all true of me*) to 4 (*very true of me*).

Basic psychological needs' satisfaction. This scale contained four subscales: "Curiosity"(e.g., "I think Chinese is interesting."; 5 items), "Autonomy"(e.g., "I think I could determine learning activities and procedures."; 5 items), "Competence"(e.g., "I think I could gain confidence to study Chinese."; 5 items), "Relatedness" (e.g., "I think I could make good relationships with my classmates."; 5 items). For each subscale, students rated items on a 5-point scale ranging from 0 (*not at all true of me*) to 4 (*very true of me*).

Chinese learning strategies. This scale contained six subscales: "Remembering Strategies"(e.g., "I remember Chinese by connecting what I already know to what I am trying to learn."; 3 items), "Cognitive Strategies"(e.g., "I say or write new Chinese words several times."; 3 items), "Compensating Strategies"(e.g., "To understand unfamiliar Chinese words, I make guesses."; 3 items), "Metacognitive Strategies"(e.g., "I think about my progress in learning Chinese."; 3 items), "Affective Strategies"(e.g., "I encourage myself to speak Chinese without worrying about mistakes."; 3 items),

"Social Strategies" 3 items (e.g., "I practice Chinese with my classmates."; 3 items). For each subscale, students rated items on a 5-point scale ranging from 0 (*never*) to 4 (*always*).

Study time (Chinese). Students answered their average study time per week.
Chinese examinations.   Fifteen questions about pronunciation, vocabulary, and grammar were taken from Chinese textbooks.

Results and Discussion

The results showed that "communicative approach" and "grammatical approach" were positively related to study time and test scores. "Cooperative approach" was not related to study time and test scores (Table 1). Recently language education in Japan has shifted from using a grammatical approach to a communicative or cooperative approach. The grammatical approach intends to improve reading and writing skills, on the other hand the communicative approach intends to improve speaking and listening skills. This study clarified the importance of learning support needs' satisfaction: "communicative approach" and "grammatical approach". However "cooperative approach" needs to accommodate complicated human relationships, so this needs' satisfaction wasn't associated with their performance.

There is another aspect of learning support needs, i.e. "contents of the lessons". But the results showed that "conversation", "vocabulary", and "culture and history" were not related to study time and test scores. It may be assumed that learners of Chinese are motivated through these needs' satisfaction in some way. There is a need for more studies further explicating these relationships.

Three psychological needs, "curiosity", "autonomy", and "competence", were positively related to study time and test scores (Table 2). Self-Determination Theory has stressed the importance of these elements in academic motivation. These findings clarified these needs' satisfaction promoted learning Chinese strongly. On the other hand "relatedness" was not related to study time and test scores. Making good relationships with classmates is a little different from academic learning goals. But it is important that students support each other through learning process. Chinese teachers have to help their students learn from each other.

Table 1
Correlations between two aspects of learning support needs, study time, and test scores

	Conversation	Vocabulary	Culture and History	Cooperative	Communicative	Grammatical
Study time	.06	.11	.06	.10	.15 *	.26 **
Chinese examinations	.09	.06	.02	.06	.16 *	.20 **

**p <.01, *p <.05, †p <.10

Table 2
Correlations between four basic psychological needs, study time, and test scores

	Curiosity	Autonomy	Competence	Relatedness
Study time	.17 *	.16 *	.18 **	.01
Chinese examinations	.26 **	.21 **	.23 **	.09

**p <.01, *p <.05, †p <.10

Five learning strategies, "remembering", "cognitive", "compensating", "metacognitive", and "affective", were positively related to study time (Table 3). Learners who used five learning strategies studied for a longer period of time. However, just one learning strategy, "cognitive", was positively related to test scores. Previous research indicates that cognitive learning strategies are significant determinants of the academic achievement (cf. Schunk & Zimmerman, 2008). These learning strategies tend to produce deep information processing through the self-regulated learning process. By the way, a relationship between study time and test score was not found. The quality and quantity of learning Chinese are different. Study time has these two aspects of learning. There is a need for more studies further explicating these complicated relationships. On the other hand, "social" learning strategy was not related to study time and test scores at all. Studying with classmates would have both positive and negative effects on the self-regulated learning process. Future research should explore both effects.

Table 3
Correlations between six learning strategies, study time, and test scores

	Remembering	Cognitive	Compensating	Metacognitive	Affective	Social
Study time	.18 *	.21 **	.21 **	.29 **	.20 **	.01
Chinese examinations	.10	.14 *	.11	.09	.04	.02

**p <.01, *p <.05, †p <.10

Conclusion

The current study has several implications. A few studies have focused on Chinese learning in Japanese students. These findings indicated that various kinds of learning support needs' satisfaction would be significant motivational factors in learning Chinese. However, the study had limitations. These variables were measured at one time point in this study, so the causal relationships could not be identified. The examination of causal relationships requires a longitudinal design.

References

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78.

Schunk, D. H., & Zimmerman, B. J. (Eds.) (2008). *Motivation and self-regulated learning: Theory, research, and applications.* New York: Lawrence Erlbaum Associates.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, *81*, 329-339.

Zimmerman, B. J., & Schunk, D. H. (Eds.) (2001). *Self-regulated learning and academic achievement: Theoretical perspectives.* New Jersey: Lawrence Erlbaum Associates.

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Acknowledgment:

A Probabilistic Solution for the Mystery of Japanese Blood Type Prediction Accuracy

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Abstract

In Japan, a belief that there is a relationship between personality and ABO blood types seems to have subsided now. Statistical hypothesis test results deny that relationship for many times up to now. However, many people still like to talk about blood types in connection with personality. They believe in predicting the blood type of one person with accuracy over a probability of 0.25 which is the mean value in providing the correct answer under the condition that they select one of the blood types at random. Actually, the questionnaire results we took several times reveal us an intriguing phenomenon; in Japan, blood type A and O were more accurately predicted than the random selection probability of 0.25. In the questionnaires, personality questions were not included, and this approach is new. In this research, we focused on the human intuition ability in predicting the blood types. That is, we investigated whether the correct answer ratio of human intuition is superior to the probability of random selection. Based on the conditional probability and Bayes theories, we show that this kind of superficial result can be expected as a natural phenomenon. We have revealed that people implicitly use the underlying knowledge of relationship between personality and ABO blood types as imprinting, which shows us superficial human intuition ability.

Keywords: blood type, personality, new questionnaire, human intuition, Bayes theory, imprinting

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Introduction

In Japan, a belief that there is a relationship between personality and ABO blood types seems to have subsided now. Statistical hypothesis test results deny that relationship for many times up to now. A recent statistical research result also shows that such a relationship does not exist (Rogers & Glendon (2003), and Nawata, (2014)). Another approach rejecting the relationship by using the machine learning is seen in Hirose & Yukizane (2008), which is shown in appendix. However, many people still like to talk about blood types of persons. They may be interested in knowing personality of someone by an indirect method actually, and this underlying hidden information could be blood type. That is, implicitly, we are inclined to connect the blood types and personality.

On the other hand, many persons guess someone's blood type without knowing his/her personality. They believe in predicting the blood type of one person with accuracy over a probability of 0.25 which is the mean value in providing the correct answer under the condition that they select one of the blood types at random. It is very intriguing that blood type discussions in many cases are performed without personality. How can they guess other's blood types? This naïve question is one of the motivations of this paper.

Questionnaire 1

We first performed a new questionnaire in our research laboratory (B4, master students, and doctor students) because they know others to each other. The question is only one: "Guess someone's blood type." Figure 1 is a result of that. In the figure, row means the person who guesses someone's blood type, and column means the person whose blood type is estimated. Using successful and unsuccessful number of persons in estimation, a hypothesis test result is shown in Figure 2, where the randomness is not rejected. However, the number of samples was rather small.

Figure 1: A result of questionnaire 1.

Hypothesis test

Hirose Labo.	A	B	O	AB	total
prevalence	6.8	3.4	5.1	1.7	17
observed	7	3	6	1	17
hits	33	16	24	0	73
vote	110	48	95	15	268
correct ratio	0.300	0.333	0.253	0.000	0.272
H0: p	0.250	0.250	0.250	0.250	
s.d. for ratio	0.0413	0.0625	0.0444	0.1118	0.0265
lower bound	0.167	0.125	0.161	0.026	0.197
upper bound	0.333	0.375	0.339	0.474	0.303
test	not reject	not reject	not reject		not reject

H0: p=0.25 not rejected

Figure 2: Hypothesis test to the result of questionnaire 1.

Then, we made the same questionnaire to a larger group, a class consisting of 80 sophomore students. Figure 3 shows the result of it. It is interesting that this time the correctly estimated ratio becomes around 0.3 in total, and this is included in the rejection region.

Hypothesis test 2

predicted	448	243	208	108	1007
sophomore	A	B	O	AB	total
prevalence	32	16	24	8	80
observed	32	23	16	9	80
hits	157	93	42	37	329
vote	331	291	200	185	1007
correct ratio	0.474	0.320	0.210	0.200	0.327
H0: p	0.250	0.250	0.250	0.250	
s.d. for ratio	0.0238	0.0254	0.0306	0.0318	0.0136
lower bound	0.202	0.199	0.189	0.186	0.223
upper bound	0.298	0.301	0.311	0.314	0.277
test	reject	reject	not reject	not reject	reject

H0: p=0.25 rejected or not rejected

Figure 3: Hypothesis test 2 to another result of questionnaire 1.

Figure 3 may be rearranged by a matrix form as shown in Figure 4, where areas indicate the difference among the blood types. It is clear that type A is dominantly occupied and that type AB is a minority group.
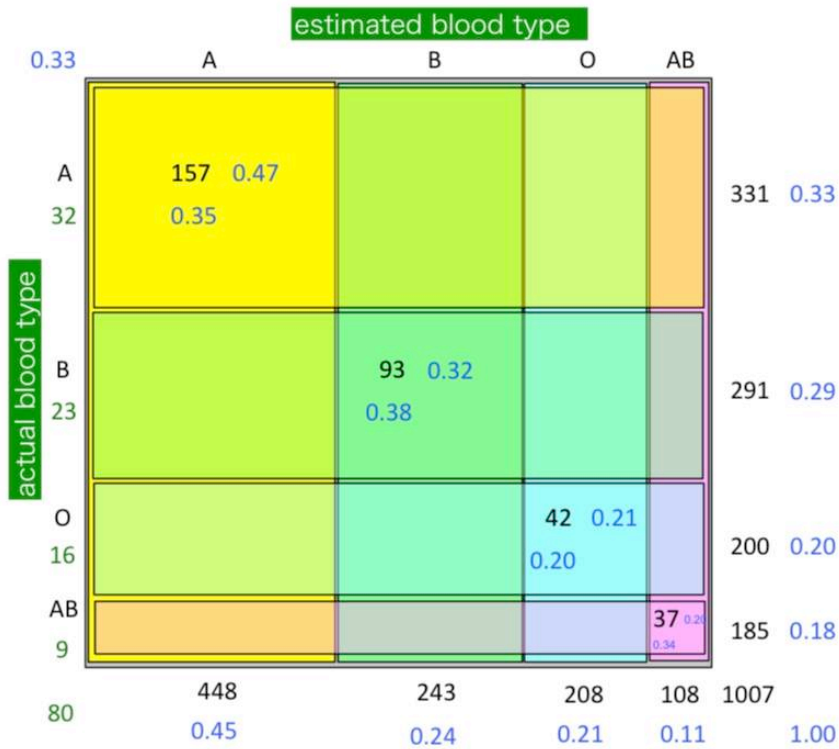
Figure 4: Matrix form of another result of questionnaire 1.

Using Bayes theorem, we can induce the estimation ratios as shown in Figure 5. These values are similar to the ratios computed from the observed values. From the Bayes perspective, we can estimated the blood types with accuracy about 40% for blood type A, about 20-30% for blood type B and O, and about 10% for blood type AB, when we used the observed values as prevalence values.
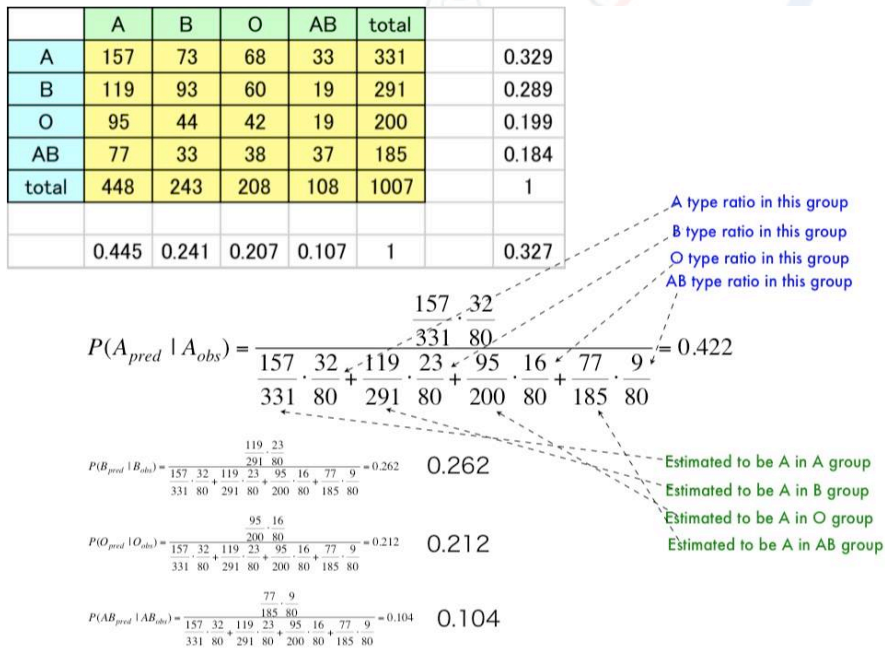
Figure 5: Bayes result to another result of questionnaire 1 (using observed ratios).

When we use the well-known common values as the prevalence values, we can derive the commonly used ratios as shown in Figure 6. That is, we can estimated the blood types with accuracy about 40% for blood type A, about 20% for blood type B, about 30% for blood type O, and about 10% for blood type AB. This means that the high accuracy in estimating blood type A seems to be merely a superficial phenomenon. We did not have high intuition abilities we might believe in. It can be explained just using the randomness. However, how can they know the prevalence values for A, B, O, and AB blood types? We consider next this naïve question.
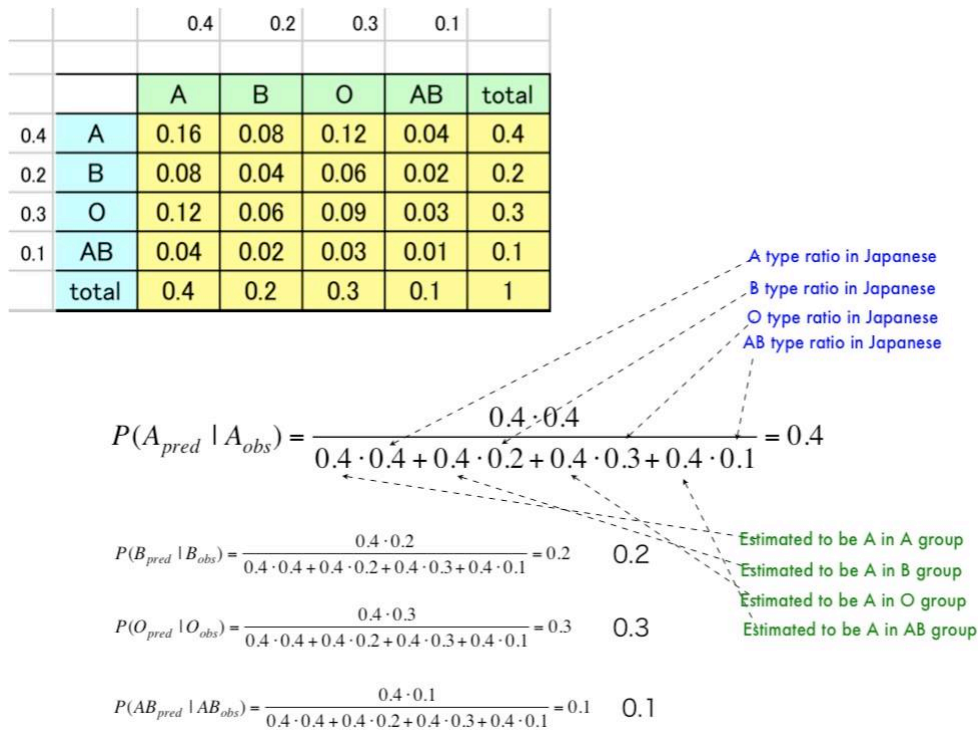
Figure 6: Bayes result to another result of questionnaire 1 (using prevalence ratios).

Questionnaire 2

Do we know the prevalence values for A, B, O, and AB blood types? If so, how can we know them? Then, we made a next questionnaire: "How many persons are there having characters in 10 persons shown below?" In many books explaining the relationship between blood types and personality, we can find typical connection example as shown in Table 1. This may be originated somewhere in the literature (e.g., Sakamoto, A., & Yamazaki, K. (2004)), and this information is commonly recognized in Japan.

Table 1: Commonly recognized personality in blood types A, B, O, and AB.

blood type	personality
A	scrupulous, steady, anxious mind
B	optimistic, own pace, freewheeling
O	broad-minded, sociable, unyielding
AB	unique, genius, dual personality

We may assume that the ratio of some blood type in total is due to the prevalence ratio of some characters in personality. For example, if we ask someone how many persons there are in 10 persons having characters, "scrupulous, steady, or anxious mind". Then, he/she considers the percentage of persons having such characters. The characters above could be majority of Japanese persons because such characters are commonly seen in Japan. Actually, as Figure 7 shows the distribution to that question, they think there are many persons having such characters. The mean value is 3.2, and 50 percentile point is 3.1. More than three in ten persons are having such characters.

Figure 7: Result for the questionnaire: how many persons are there in 10 persons having characters, "scrupulous, steady, or anxious mind?"

Figures 8, 9 and 10 show the similar results for characters, "optimistic, own pace, freewheeling", "broad-minded, sociable, unyielding", and "unique, genius, dual personality". The order of the ratios in ten persons to the questionnaire results reveals that the result in Figure 7 is the first, that in Figure 9 is the next, those in Figure 8 and 10 follow in succession. This order is consistent to the order of the blood type ratios: the first is A, next O, then B, and last AB.

The well-known prevalence ratios of Japanese blood types are 0.4 for type A, 0.2 for type B, 0.3 for type O, and 0.1 for type AB. The blood type AB is regarded as a minority group.

Figure 8: Result for the questionnaire: how many persons are there in 10 persons having characters, "optimistic, own pace, freewheeling?"

Figure 9: Result for the questionnaire: how many persons are there in 10 persons having characters, "broad-minded, sociable, unyielding?"
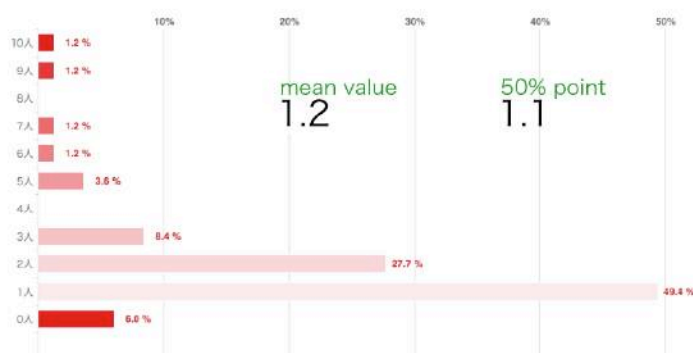
Figure 10: Result for the questionnaire: how many persons are there in 10 persons having characters, "unique, genius, dual personality?"

Figure 11 shows the box plot corresponding to Figures 7, 8, 9, and 10 although some transformation is performed. That is, for one person, total ratio summing up from four ratios to each blood type becomes one. In the figure, we can see some relationship between the blood types and the guessing numbers of persons having some personalities. Figure 12 shows the correlation between the ratios of actual prevalence one and those of the questionnaire results in mean values shown in Figure 11. The correlation coefficient value is 0.92. In anyway, the guessing numbers of persons having some personalities are consistent with the actual prevalence ratios of blood types.
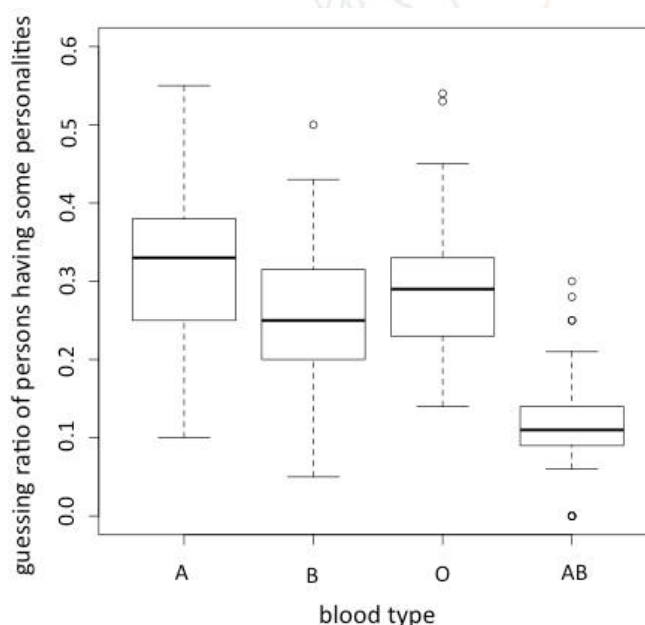
Figure 11: Correlation between the ratios of actual prevalence one and those of the questionnaire results shown in Figure 7, 8, 9, and 10.
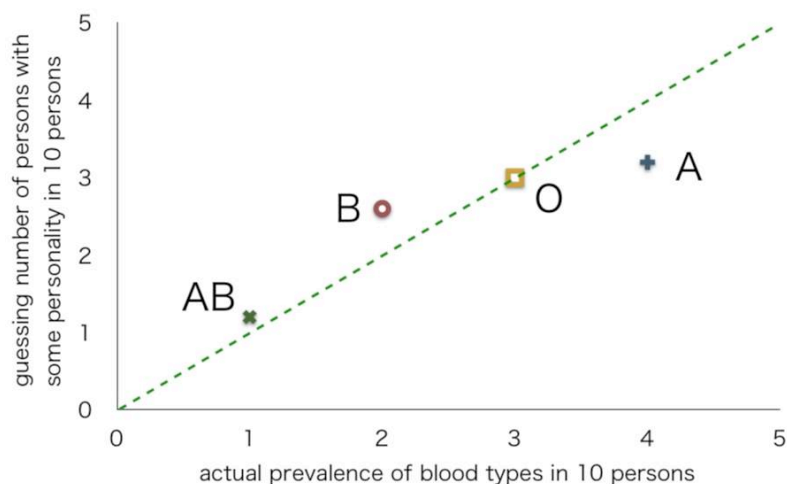
Figure 12: Correlation between the number of the actual prevalence and that of the questionnaire results in mean values shown in Figure 11.

Therefore, we could construct a hypothesis that many people guess someone's blood type via the hidden personalities. One can estimate the percentages of typical human characters, and these percentages happen to coincide with those of blood types. However, we cannot simply assume that there is a relationship between human characters and the blood types. Still, we can explain the accuracy of the estimated values even if people do not know the blood types prevalence. Without knowing the actual prevalence ratios of blood types, we can guess someone's blood type by with the aid of personality ratios commonly pervaded. This is why we can guess others' blood types more accurately (e.g., 0.3) than randomly estimated value (i.e., 0.25).

Discussion

Many researchers investigate the relationship between blood types and personality by using questionnaires in which blood types and personality are included altogether. This paper does not deal with the information of personality in questionnaires directly; it deals with only the blood type questionnaire: one can estimate someone's blood type. This is a novel point of the paper. If no information about personality is provided, the expected accuracy to correct answers seems to be 0.25 by randomness. However, a higher accuracy, e.g., 0.3, is obtained by our questionnaires. It seems that people first guess others' personality, and then they connect blood types and personality with their own information, and finally they guess blood types. If this is true, we have to assume that there may be some information about the relationship between the blood types and personality. Where do they get such the information? Are they medical or psychological references? We think that a source of the information could be imprinting developed over a long period of time through the literature. However, we know such the information is unreliable nowadays.

The accuracy to correct answers obtained by our questionnaire seems to be one that we know the prevalence ratios of blood types to the total. Therefore, we next tried to find the prevalence ratios. To find the hidden information between blood types and personality, we performed a different questionnaire: how many persons there are having such and such personality in ten persons.

If the ratios of personality people replied are consistent with the actual prevalence ratios, then we can estimate the blood types with a higher accuracy without the knowledge of the relationship between the blood types and personality. Only the ratios have critical importance. No meaning in the knowledge. This is our conjecture.

Conclusion

In Japan, a belief that there is a relationship between personality and ABO blood types seems to have subsided now, and statistical hypothesis test results deny that relationship for many times up to now. However, many people still like to talk about blood types in connection with personality. In the questionnaires, blood types and personality were included altogether. However, in this paper, personality questions were not included, and this approach is new. In this research, we focused on the human intuition ability in predicting the blood types. That is, we investigated whether the correct answer ratio of human intuition is superior to the probability of random selection. Based on the conditional probability and Bayes theories, we show that this kind of superficial result can be expected as a natural phenomenon. We have revealed that people implicitly use the underlying knowledge of relationship between personality and ABO blood types as imprinting, which shows us superficial human intuition ability. A subsequent questionnaire regarding the prevalence ratios of some personalities assisted the conjecture that only the prevalence ratios make sense but the relationship knowledge between the blood types and personality.

Appendix

As commonly used questionnaires, we also obtained two sets of database for the relationship between the blood types and personalities of as shown in Figure 13. One set is for sophomore class of fiscal year 2005, and the other is of 2006. A commonly used method in classification is the decision tree as shown in the figure.
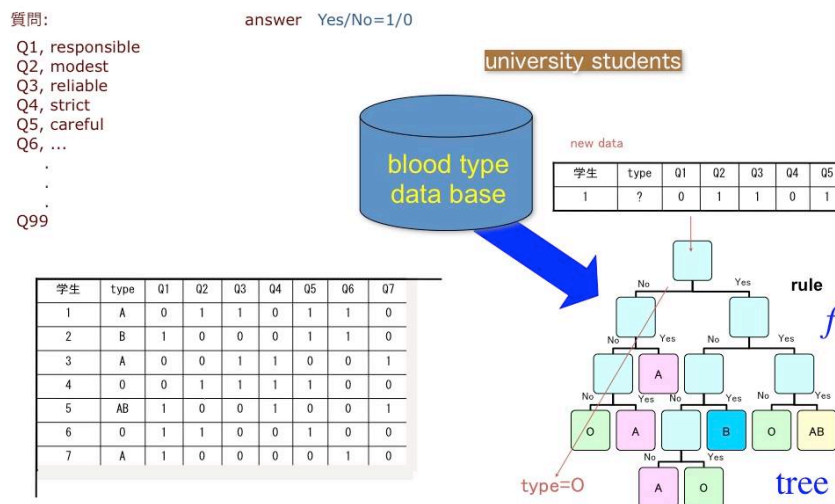
Figure 13: Questionnaire database and classification by using the tree.

We can construct the tree model by using the data set of 2005 and apply the model to the same data set, as shown in Figure 14. In such an application, about 60% accuracy for correct answers is obtained.

However, if we apply the model to the 2006 data set, the accuracy drastically reduced to 40%, which is commonly seen in other cases. This accuracy is also obtained if all the final leaves show the same class: blood type A is always estimated because A is the most major group. The decision tree automatically constructs such the model, and actually it does not work at all.
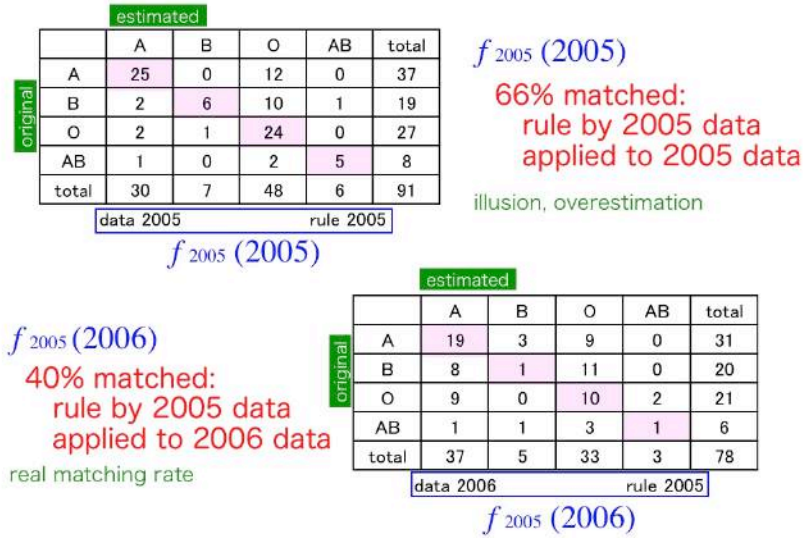
Figure 14: Superficial and actual classification accuracies.
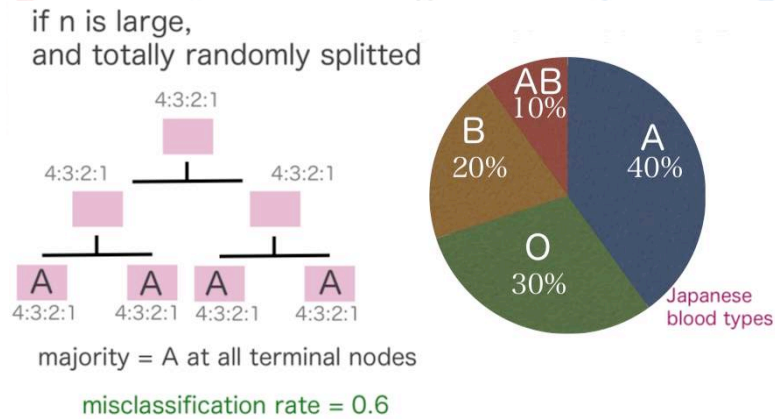
Figure 15: Japanese blood type prevalence ratios and the decision tree classification.

If we are in English-speaking world, the blood type prevalence ratios are seen in Figure 16. Then, we will no longer be able to estimate the blood types by using the same questionnaire 2 results.
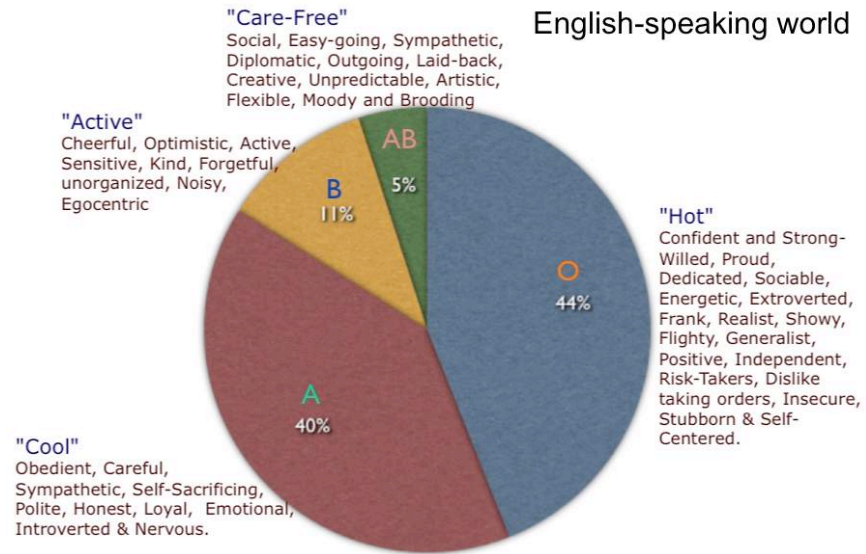
Figure 16: Blood type prevalence ratios in English-speaking world.

References

Cameron, D. (2001). *Working with spoken discourse*. London: SAGE.

Coates, J. (2007). Talk in a play frame: More on laughter and intimacy. *Journal of Pragmatics, 39*, 29-49.

Drew P., & Heritage J. (1992). Analysing talk at work: An introduction. In P. Drew, & J. Heritage (Eds.), *Talk at work* (pp. 3-65). Cambridge: Cambridge University Press.

Hirose, H. and Yukizane, T. (2008). The accuracy of the trade-off curve in the bump hunting, *7th Hawaii International Conference on Statistics, Mathematics and Related Fields*, Hawaii.

Nawata, K. (2014). No relationship between blood type and personality: Evidence from large-scale surveys in Japan and the US, *The Japanese Journal of Psychology*, **85**, 148-156.

Rogers, M., & Glendon, A. I. (2003). Blood type and personality. Personality and Individual Differences, 34,
1099–1112.

Sakamoto, A., & Yamazaki, K. (2004). Blood-typical personality stereotypes and self-fulfilling prophecy: A natural experiment with time-series data of 1978-1988. In Y. Kashima, Y. Endo, E. S. Kashima, C. Leung, & J. McClure (Eds.), Progress in Asian Social Psychology, Vol. 4. Seoul, Korea: Kyoyook-Kwahak-Sa. 239–262.

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The Effect of Yoga on Emotion Regulation

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Abstract
Emotions affect human life. Emotions are the quick answers to individual reactions toward various situations, either pleasant or unpleasant. Unpleasant or negative emotions may affect an individual's activities. Therefore it would need some skills to reduce negative emotions by regulating them. Yoga is a type of physical exercise which may affect the regulation of emotions. This study aimed to examine the effects of yoga on emotion regulation. The method used in this study was the randomized experiment design applied to the experimental group (8 people) and the control group (9 people). The subjects in the experimental group were given two hour yoga exercise every day for one week period. The Emotion Regulation Scale was used as the measurement tool. Once the intervention had been completed, the scores of the experimental group were compared to that of the control group using mixed-design analysis of variance (Mixed Design ANOVA). The study results indicated that the emotion regulation of the experimental group was significantly higher than that of the control group ($F=10.315$, $p=0,006$, $p<0,01$). Based on this finding it was concluded that the emotion regulation skill was improved by doing yoga exercise. As an implication, yoga may be used to improve emotion regulation skill.

Keywords: Emotion, Emotion Regulation, Yoga

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Introduction

Interpersonal relationships in the community are evident in how individuals potition themselves in viewing others and how they are aware of their own feelings or emotions. These make them aware that other people also have emotional side as they do. Emotions are the quick answers to individual reactions toward various situations, either pleasant or unpleasant ones. Emotional reaction sometimes occur concurrently with the external stimulus, for example a fear which occurs when seeing a snake, and sometimes they occure after the stimulus is encountered, for example an anger which occurs after hearing bad commentary from others (Barret & Salovey, 2002). According to Barret, Gross, Christensen, and Benvenuto's study (in Manz, 2007), negative emotions may affect an individual's activities.

Such negative emotional reactions may serve as learning material to regulate emotions. Emotion regulation is the capacity to manage arousal to adapt and to pursue goals effectively. Arousal is a state of alertness or an activition which may reach quite high degree, for example anger, fear, and happiness. According Thompson, emotion regulation may also be defined as the capacity to evaluate and change emotional reactions into behaviors appropriate to the happening situation (Garnefski & Kraaij, 2006). The more mature an individual, the more capable he/she would be to regulate his/her emotions. Such individuals are able to decide on the extent of attention they should put on certain feeling and know clearly how that feeling may influence them in their interpersonal interactions in the social environment. Therefore, an individual's emotion regulation is considered optimal when he/she is able to regulate and understand his/her emotions without exaggerating nor minimizing the emotions he/she feels (Barret & Salovey, 2002).

According to Gross (1998), emotion regulation is a situation when an individual can identify the kind of the feeling he/she is experiencing, when he/she is experiencing them, and know how to express the feeling he/she is experiencing. Eisenberg (2000) defined emotion regulation as the process of initiation, maintenance, and modulation and the intensity or duration of feelings and emotional process that has to do with physiology. They play some role in pursuing some goal. According to Gross, the merit of an individual capable of emotional regulation is that he/she is able to complete a task satisfactorily and meticulously and to recover from emotional stress. Emotion regulation is divided into two parts: emotion regulation in the beginning of action (*antecedent-focused emotion regulation/ reappraisal*) and emotion regulation at the end of action (*response-focused emotion regulation/ suppression*). Initial regulation consists of changes in the thinking about the situation in order to reduce the emotional impacts, while final regulation blocks the emotional indications outputs (Barret & Salovey, 2002).

Appropriate emotional regulation mechanism may cause an indivual accepted in a community. This is evident in his/her ability to know the emotion he/she or another individual is experiencing. An individual capability to monitor, evaluate, and modify emotional reactions and express appropriate emotions and feelings in his/her everyday life is called good emotion regulation (Salamah, 2008). On the contrary, bad emotion regulation happens when an individual is not able to express the feeling he/she is experience and behave overactingly in expressing his/her emotions (Barret & Salovey, 2002). The effects of bad emotion regulation may include impaired

interpersonal relationship, withdrawal from environment, anxiety, depression, increased level of aggression, and attention difficulties (Neidji, 2010). Matthew (2008) found that anxiety among normal people can be coped with emotion regulation. In this particular study, the emotion regulation was done with three ways: relaxation, involvement of senses (touch, taste, smell, sight, and hearing) in doing activities, and ability to express felt emotions. A technique used to do these three things is breathing exercise. Incorrect breathing may lead to short dan shallow breaths which may lead to anxiety which may have impacts on other physical organs. Breathing exercise involves diafragm and big muscle in the stomach instead of chest breathing which involve chest and shoulder. Breathing exercise was used in that study to deal with anxiety in normal people. The results indicated that emotion regulation was helpful to lower anxiety.

A breathing study was also conducted by Retnowati and Widiastuti (2010) with asthmatic patients. Patients with asthma were given emotion regulation training. Emotion regulation training was chosen to improve both physical and mental health protections of asthmatic individuals. The strategy chosen to regulate emotion included relaxation training, breathing exercise, and self-monitoring with the help of emotion journal. The study showed that relaxation and breathing exercise as emotion regulation techniques were helpful in improving emotion regulation of asthmatic patients.

The application of relaxation, breath exersice, and activities which involves the five senses to regulate emotions were also performed with physical exercise. In practice, the physical exercise gave more emphasis on mind, feeling, and body improvement (Sindhu, 2008). A physical exercise which uses mind and soul management concept is yoga. Yoga is a combination of body posture, breathing control, mental concentration, and relaxation which is developed by train body posture, breath control, concentration, and relaxation (Zipkin, 1985). Yoga also contains a life guide toward health, peace of mind, and happiness (Sindhu, 2008).

Yoga focuses on *asana* (posture), *pranayama* (breath exersice), *bandha* ("body locks"), *mudra* (gesture), and deep relaxation. Yoga may improve an individual's physical as well as mental condition (Sindhu, 2008). Yoga is different from nonyoga exercises (for example aerobics). The movements in nonyoga exercises tend to be sporadic and fast and give strong emphasis on muscles. Nonyoga movements are designed to get athletic body shape and no necessities to give special attention to breathing. Movements in yoga, on the other hand, tend to avoid too strong and sudden muscle movements and performed with full awareness of breath in such a way that mental strength improves and mind becomes more focused and shrewd (Rohimawati, 2008).

Based on the reference review, the hypothesis of this study was as follows: There is significant difference between university students treated with yoga and those who were not treated with yoga.

Method

This study was a randomized experiment which used pretest-posttest control group design. The subjects in this study were divided into two groups: experimental group and control group. The experimental group was the group which received yoga treatment, while the control group did not receive yoga treatment.

Eight students and nine students of the Faculty of Psychology Gadjah Mada University enrolled in the academic year of 2010/2011 were included in the experimental group and the control group, respectively.

In the process of study, the experimental group received treatment in form of yoga training, while the control group was treated as a waiting-list group and would receive yoga training the timing of which would be determined later. Yoga participants may be absent from yoga sessions for 2 days at the maximum, otherwise they would be dropped as study subjects.

The implementation of study was done in a room in Gadjah Mada University environment. Each session lasted for two hours. The yoga intervention included 7 sessions each of which consisted of warming-up, movements (*asanas*), and meditation. According to Jannah's (2004) study, meditation may influence an individual psychologically if it is performed for 7 sessions consecutively.

The data were gathered using the Emotion Regulation Scale which was an adaptation of similar scale used by Megawati (2003) with $r = .902$. This scale contained items aimed to measure emotion regulation level.

The scale consisted of favorable and unfavorable statements each of which had for options ranging from highly highly unapplicable, unapplicable, applicable, and highly applicable and representing the three aspects of emotion regulation:

1. Emotional appraisal. Emotional appraisal is the ability to identify one's own emotion as well as other's emotion, to interpret the meaning of different emotions and feelings, and to understand complex feelings and emotional experience. The emotional appraisal aspect is implied in two things: differentiation of emotions and choice of coping method.
2. Emotion regulation. Emotion regulation is the effort to regulate moods in order to achieve emotionally balanced state. This aspect is divided into two: emotional control and emotional stability.
3. Emotional expression. Emotional expression is the process of expressing feelings and emotions either through statement, facial expression, or behavior. This aspect is divided into two: expression toward others and expresssion toward oneself or other surrounding things.

The data analysis used Mixed Design ANOVA to see within-subject interaction, i.e. pretest and posttest scores comparison, and between-subject interaction, i.e. experimental and control groups comparison. The Mixed Design ANOVA is also commonly referred as 2x2 Mixed ANOVA. The calculations of scores were made with omputer using *Statistical Product and Service Solutions* (SPSS) 16.

Results

Data in forms of Emotion Regulation scores were gathered from two measurements measurements – pretest and postest with the experimental group and two pretest and posttest with the control group. Data from pretest and posttest both with the experimental and the control group are shown in the following table.
Table

Pretest and Posttest Data of the Experimental Group and the Control Group

The Experimental Group				The Control Group			
Subject	Pretest	Posttest	Increase	Subject	Pretest	Posttest	Increase
1	43	52	9	1	57	55	-2
2	44	53	9	2	42	53	11
3	57	65	8	3	52	51	-1
4	50	59	9	4	57	53	-4
5	49	56	7	5	56	52	-4
6	45	48	3	6	49	43	-6
7	48	49	1	7	45	43	-2
8	57	58	1	8	54	54	0
Mean	49,125	55	5,875	9	54	54	0
				Mean	51,778	50,889	-0,889

The data analysis indicated that the experimental group showed very significant increase in emotion regulation after receiving yoga exercise treatment ($F= 10.315$; $p=0.006$). Therefore the hypothesis was accepted. There was difference in emotion regulation between those university students who received yoga exercise treatment and those who did not.

The Mixed Design ANOVA showed mean difference of 5.875 in the experimental group. This positif mean difference indicated that the mean of posttests scores was greater than that of pretest scores, which meant that there was some increase in the emotion regulation and the *p* score of .002 ($p<.01$) indicated that the increase of the emotion regulation in the experimental group was very significant.

The Mixed Design ANOVA showed mean difference of -.889 in the control group. This negative mean difference indicated that the mean of posttest scores was smaller than that of pretest scores, which meant that there was some decrease in the emotion regulation, but the *p* score of .0548 ($P>.05$) indicated that the decrease of the emotion regulation in the control group was not significant.

Discussion

This study was done to see the effect of yoga on emotion regulation. The Mixed Design ANOVA indicated that in this study yoga as treatment had influence on emotion regulation of the experimental group.

Its contribution to the emotion regulation increase in the experimental group was .495 which meant that yoga caused a 49.5 percent increase in the emotion regulation.

Wheeler and Wilkin's (2007) study suggested that the more often an individual practices yoga in her/his daily life, he/she would become calmer and his/her stress level lowered. This study confirmed Jannah's (2004) study which demonstrated that yoga which included meditation might affect psychological functioning in that it improved concentration and emotion regulation. In addition, this study also corroborated Zipkin (1985) who suggested that yoga may improve emotion regulation. In the practice of yoga subjects were asked to combine physical posture, breath control, mental concentration, and relaxation during the exercise. This followed yoga procedure which starts with warming-up, *asanas,* and relaxation at the end of each session.

Yoga may improve emotion regulation because during the exercise subjects were asked to concentrate on their breathing (inhaling and exhaling). This is in accordance with Kaminoff (2010) who stated that yoga may improve an individual's emotion regulation because in yoga exercise he/she is asked to be constantly aware of his/her breath.

Focusing on breath during yoga exercise is in line with Sindhu (2008) who said that the correct technique of breathing use *Dhiirga Swasam* (basic breathing technique of yoga). Subjects in this study used *Dhiirga Swasam* when practicing yoga. In yoga exercise, in each *asanas* subject was trained to use abdominal breathing by inhaling air (oxygen) into abdominal area and exhaling it (carbondioxyde) from the lower part of lungs up to the ribs and finally to the whole chest (Sindhu, 2008).

According to Affandi (2007) yoga may improve emotion regulation because yoga exercise includes meditation which may lower an individual's anxiety and leads to calm and positive feeling which in turn makes the whole body more relaxed. Moreover, yoga exercise may improve emotion regulation because in addition to breathing exercise, the participants also do body posture exercise (Sindhu, 2008). This finding was in line with Karminoff's (2010) assertion that in the body posture exercise (*asanas*) there are calming movements which ease the tension in each part of body and mind.

Another thing that may cause yoga has contribution to the increase of emotion regulation scores was that because the exercise was performed seriously. Such seriousness was indicated by routine presence and high degree of attentiveness during the consecutive 7 days. The subjects initially had difficulty in following the instructions from the instructor because yoga movements were new to them, but after the second day they could follow the instructions from the instructor with little difficulty. This was reflected in the report of observation done every day during the yoga sessions.

Based on the daily evaluation form filled by the participants it could be inferred that five out of the eight yoga participants felt calmer after doing yoga exercise. This was because there is a movement in yoga which put great emphasis on relaxation, *shavanasana.* This particular movement asks the participants to concentrate on their breathing (Sindhu, 2008). Three out of the eight yoga participants indicated that they felt the benefit of yoga because it makes their body more relaxed and enables them to think positively.

From the change in emotion regulation scores Subject 1 experienced the greatest increase in emotion regulation with 9 points increase, while Subject 7 experienced the smallest increase with 1 point increase only. This was because during the exercise Subject 1 always followed the movements according to the instructions given by the instructor. Response to the exercise was also most felt by Subject 1. According to the daily observation form of Subject 1, it seemed that this particular subject was increasingly enjoying yoga exercise and felt calmer afterwards. Unlike Subject 1, Subject 2 sometimes made mistaken movements during yoga exercise. This particular sucject said enjoying yoga, but sometimes did not feel any difference afterwards.

There are several things worth noting from this present study in terms of internal validity (Shadish, Cook, & Campbell, 2002). These include:

1. Testing factor. Testing factor may happen when the researcher makes repeated measurements (pretest and posttest) with the same measurement toolss. The measurement tool in this study was used both in the pretest and posttest. This allowed the subject to learn from the previous test when taking the second testing. Therefore the future studies should use different (but parallel) measurement tools for pretest and posttest. In addition, the time distance between the first and the second data collections should longer than what the researchers did in this study (should be more than seven days) to reduce the effect of testing factor.

2. Interaction factor between maturity and selection. This factor would have influence if the selected participants for the experimental group happen to have higher degree of maturity than the participants for the control group so that the resulting increase in emotion regulation in the experimental group might due to higher degree of maturity of experimental group before yoga exercise treatment was given. And this very factor was not controlled in this study.

3. Historical factor in forms of events outside the treatment that happened between the first test and the subsequent test during the study. Events outside yoga exercise could not be control, and they likely had influence on the increase of emotion regulation.

Conclusions

Based on study results and discussions, the following conclusions were drawn:

1. There was very significant difference in emotion regulation between the experimental group and the control group. In the experimental group, the increase of emotion regulation was very significant.

2. Yoga may be used to improve emotion regulation.

References

Barret, L. f., & Salovey, P. (2002). *The wisdom in feeling: Psychological processes in emotional intelligence.* New York: The Guiford Press.

Barrett, L. F., & Gross, J. J. (2001). *Emotional intelligence : A process model of emotion representation and regulation.* (T. J. Mayne, & G. A. Bonanno, Eds.) New York : The Guilford Press.

BIF. (2008). Yoga Melatih Emosi dan Konsentrasi Anak. *Yoga for Health, a voice of Bali*, pp. 20-21.

Chaplin, J. P. (2002). *Dictionary of psychology* (Vol. 8). (K. Kartono, Ed.) Jakarta: Raja Grafindo Persada.

Shadish, W.R., Cook, T. D., & Campbell, D. T. (2002). *Experimental* and *quasi-experiment design for generalised causal inference.* Boston: Houghton Mifflin Company.

Ekasari. (2010). *Manfaat yoga untuk kesehatan tubuh.* http:// www. wolipop. com/read/2010/12/19/100344/1528103/857/5-manfaat-yoga-untuk-kesehatan-tubuh. Femina. (2007). *7 variasi olah tubuh dari mancanegara.* http:// www. jadilangsing. com/exercise/exercise_detail.asp?id=549.

Garnefski, N. A., & Kraaij, V. (2006). Cognitive emotion regulation questionnaire development of a short 18-item version (CERQ-short). *Personality and Individual Differences, 41*, 1045–1053.

Goleman. (1994). *Emotional intelligence: Why it can more than IQ.* London: Bloomsbury Publishing Plc.

Neidji. (2010, Agustus 22). *Regulasi emosi pada anak usia 10-12 Tahun.* http://ranahberbagi.blogspot.com/2010/regulasi-emosi-pada-anak-usia-10-12.html.

Retnowati, S., & Widiastuti, R. (2010, November 11). *The effect of emotion regulation on asthma control.* Yogyakarta: Fakultas Psikologi Universitas Gajah Mada.

Richard, J. M., & Gross, J. J. (2000). Emotion regulation and memory. *Journal of Personality and Social Psychology, 79 (3)*, 410-424.

Rohimawati, R. (2008). *Hidup sehat dan bahagia dengan yoga.* Bandung: Qonita.

Salamah, A. (2008). *Gambaran emosi dan regulasi emosi pada remaja yang memiliki saudara kandung penyandang Autis.* Jakarta: Fakultas Psikologi Universitas Gunadarma.

Sindhu, P. (2008). *Hidup sehat dan seimbang dengan Yogalates: Daily practice.* (B. Rizki, Ed.) Bandung: Qonita.

Zipkin, D. (1985). Relaxation techniques for handicapped children: A review of literature. *The Journal Of Special Edition, 19*, 284-289.

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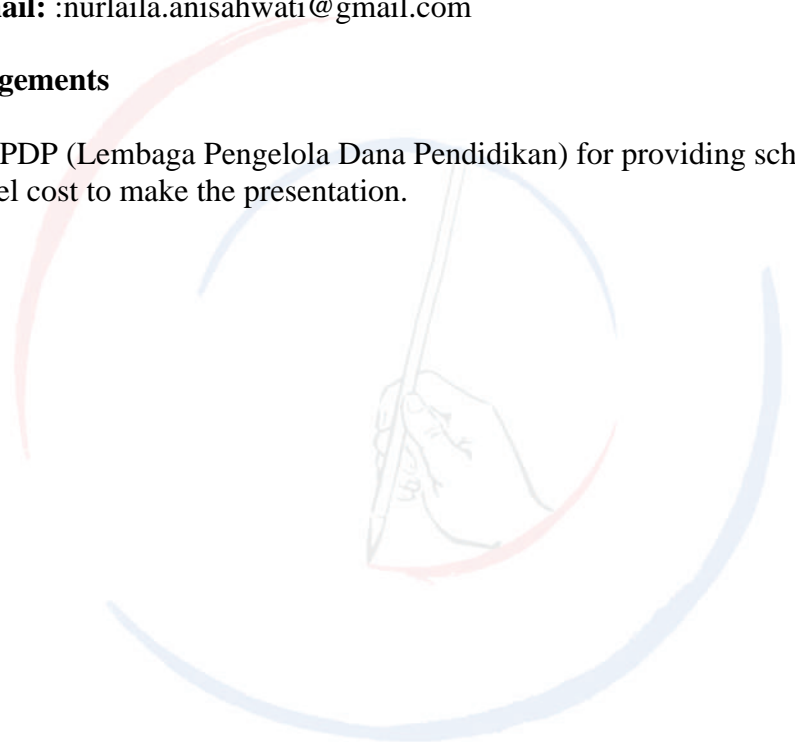
Modern Forms of University Students' Extremist Behavior Depending on Cultural and Environmental Factors

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Abstract

Transformations in economic, political, social and cultural life of the modern society are causing an increase in extremist tendencies among the youth worldwide. Based on the anthropological approach, the study was aimed at identifying root causes (axiological, motivational, personal and socio-psychological) and a role of socio-cultural and environmental factors in the genesis of Russian students' extremist behavior. The study objectives were to evaluate regional environmental factors (economic, social and cultural), to reveal university students' personal and socio-psychological features, and to identify modern forms of the youth extremist behavior depending on regional specific features and young people's psychological characteristics. The study sample involved 813 university students from several regions of Russia.

It has been found that modern forms of university students' extremist behavior include ethnic, information and political extremism. The Internet has been revealed to be a dominant socio-cultural and environmental factor determining individual and group mind of the modern youth. The study results have shown that the university students' attitudes to extremism are affected by the regional factors, namely the region of their origin and that of studying. In addition, there is a region-specific combination of psychological factors determining the youth attitudes to extremism. Among the young there seems to be much more disbalance between the reality of social transformations and the readiness for accepting them. Thus, the results obtained enable to develop measures of psychological support for university students to prevent them from extremist behavior.

Keywords: extremist behavior, socio-cultural factors, attitudes to extremism

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Introduction

The problem of extremist behavior among young people is one of the direct threats countries are facing in the globalized world. Mostly, extremism ideology draws on nationalism attitudes, as Ghosh (2013) highlights. Current transformations in economic, political, social and cultural life in Europe are causing a considerable increase in communities' radicalization and confrontation among ethnic groups (Minkenberg, 2013). On the other hand, authorities and researchers, educators and volunteers have been seeking for possible ways to prevent young people from supporting violent extremism actively or passively (Smith, 2008). The work being done is essentially important for a deeper understanding of what actual extremist views are rooted in and how to strengthen youth's resilience to extremist behavior.

Russia is also involved in making efforts to prevent its residents from becoming and supporting extremists. Being multinational and multicultural as a result, the country constantly encounters the issues under discussion and the young is the group that is at risk of being engaged in extremist behavior. Meshcheryakova and Bocharov (2014) showed that religious, ideological, linguistic and cultural aspects are of importance by using content analysis when examining the Runet information space in its connection with the concept of *extremism*. Bocharov et al. (2015) have revealed that young people's attitudes toward extremism are region-specific, so socio-cultural environment factors should be taken into account in preventing youth extremism.

Thus, the paper presents a study focused on evaluating regional specific features and identifying modern forms of extremist behavior among young people with regard to their psychological characteristics.

Research Methodology

The study presented was made up of two stages. The study participants were surveyed first to reveal a group of young people experiencing ethnic tension and this was followed by a psychodiagnostic study aimed at identifying possible relationships between the participants' psychological characteristics and their attitudes to extremism in the group revealed.

The total study sample involved 813 university students aged from 18 to 26 years old. They were majoring in law, economics, psychology and pharmacy at the universities of Moscow, Saint-Petersburg, Tomsk and Yekaterinburg.

The research tools comprised a survey at the first stage and a set of questionnaires at the second one. These questionnaires were the following: 1) the Russian version of MMPI adapted by Zaytsev (1981) in its short mode; 2) the Self-Determination scale (Sheldon, 1995) adapted and modified by Osin (2010); 3) the Personality Motivational Sphere technique (Mil'man, 1990) and 4) the Culture-Value Differential technique (Soldatova, 1998).

Results and Discussion

As mentioned above, the first stage of the study was focused on revealing a group of young people experiencing ethnic tension. The participants, who were ethnic Russians, were surveyed using a number of questions. So, one of the questions was concerned with the respondents' negative attitudes toward representatives of other nationalities. 62 % of the study participants said that they did not have such attitudes, 22 % of the sample pointed out that they had negative attitudes toward some ethnic groups and 9 % of the respondents said *yes*. Another question examined the study participants' opinions on the possibility of peaceful co-existence of people diverging in their religious views. 72 % of the respondents answered *yes*, while 13 % of the sample said *no*. There was one more issue of research interest referring to the study participants' attitudes toward the growth in migration to Russia. 33 % of the respondents reported that they did not care of this, 22 % evaluated this process as beneficial to the country in the demographic and economic modes, 5 % of the sample had positive attitudes toward the situation in question, while 20 % of the participants felt negative. In other words, most of the study participants had positive attitudes toward diverse ethnic groups, demonstrated their readiness for living in peace with people differing in their religious tenets and viewed migration processes as a reality of the global world. Nevertheless, the first stage of the study enabled us to reveal a group of young people experiencing negative attitudes toward people with diverse ethnic, religious or cultural background.

The second stage of the study was carried out as follows. The data for correlation analysis were collected using the research tools described above and then statistically treated. The results obtained were analyzed in terms of this study participants' ethnic identity. There were four bipolar criteria for analysis, namely 1) *orientation to group* versus *orientation to self*; 2) *openness to changes* versus *resistance to changes*; 3) *orientation to interaction* versus *rejection of interaction*; and 4) *strong social control* versus *weak social control*. Correlation analysis showed that the parameter of *orientation to self* was related to the participants' low anxiety, unstable moral principles, low empathy, nonconformity, skepticism, egocentricity as well as avoidance of interaction.

The parameter of *orientation to group* was connected with the participants' orientation to interaction and strong social control. The parameter of *resistance to changes* was characterized by the participants' high anxiety, conflict avoidance and strong social control, while that of *openness to changes* was related to self-expression and orientation to interaction. In turn, the parameter of *orientation to interaction* was correlated with lack of self-confidence in the participants and their low activity. The parameter of *rejection of interaction* was connected with the participants' orientation to their own values, unwillingness to make new contacts and weak social control. The parameter of *strong social control* was related to the participants' decisiveness, self-confidence, low self-control, resistance to changes as well as orientations to their traditional cultural values and interaction. Finally, the parameter of *weak social control* was characterized by the participants' low motivation for achievement, lack of spontaneity, low anxiety, egocentricity, reduction of contacts.

One more objective of the study was to identify if there were any region-specific attitudes toward extremism among young people (the subsample included university students from Saint-Petersburg, Tomsk and Yekaterinburg). Cluster analysis revealed three types of attitudes to extremism, namely 1) *mixed and uncertain attitude*; 2) *tendency to chauvinism and extremism*; 3) *tendency to tolerance*. The results showed that young people studying in Siberia (Tomsk) were more prone to tolerance, as well as those who studied in Saint-Petersburg, while their counterparts from the Ural Federal District (Yekaterinburg) demonstrated a greater inclination to chauvinism and extremism. Meanwhile, young people who came from the Southern, Central and North-Western Federal Districts were more likely to reject the mixed and uncertain attitude to extremism as compared with other places.

In addition, cluster analysis revealed that the three types of attitudes toward extremist behavior were related to the participants' psychological parameters. For instance, the cluster of *tendency to tolerance* was interrelated with the participants' high self-determination, while those in the cluster of *mixed and uncertain attitude* and that of *tendency to chauvinism and extremism* demonstrated lower self-determination. They also showed higher emotional lability, rigidity, anxiety and egocentricity.

Conclusion

Thus, the study results have shown that university students' attitudes toward extremism are affected by regional factors, namely the region of their origin and that of studying. In addition, there is a region-specific combination of psychological factors determining the youth attitudes to extremism. Among the young there seems to be much more disbalance between the reality of social transformations and the readiness for accepting them. In addition, the results obtained enable to develop measures of psychological support for university students to prevent them from extremist behavior.

References

Bocharov, A.V., Meshcheryakova, E.I., Larionova, A.V. (2015). Regional dimensions of young students' attitude to extremism. *Tomsk State University Journal, 392,* 152-160.

Ghosh, M. (2013). The extreme right in Ukraine's political mainstream: What lies ahead? In R. Mezler & S. Serafin (Eds.), *Right-wing in Europe extremism: Country analyses, counter-strategies and labor-market oriented exit strategies* (pp. 199-227). Frankfurt am Main: Druck- und Verlagshaus Zarbock GmbH & Co.

Meshcheryakova, E.I. & Bocharov A.V. (2014). Content-analysis of interdependence between cultural-environmental ideological factors and the definition of "extremism" in the information field of Runet. *Tomsk State University Journal, 389*, 211-216.

Mil'man, V.E. (1990). Metod izuchenija motivatsionnoj sfery lichnosti. In A.I. Zelichenko et al. (Eds.), *Praktikum po psikhodiagnostike: Psikhodiagnostika motivatsii i samoregulyatsii*. Moscow: Moscow State University.

Minkenberg, M. (2013). The European radical right and xenophobia in West and East: Trends, patterns and challenges. In R. Mezler & S. Serafin (Eds.), *Right-wing in Europe extremism: Country analyses, counter-strategies and labor-market oriented exit strategies* (pp. 9-33). Frankfurt am Main: Druck- und Verlagshaus Zarbock GmbH & Co.

Osin, E. & Boniwell, I. (2010). *Self-determination and well-being*. Poster presented at the Self-Determination Conference. Ghent, Belgium, 2010.

Sheldon, K.M. (1995). Creativity and self-determination in personality. *Creativity Research Journal, 8*, 25-36.

Smith, P. (2008). *Prevention of Violent Extremism Project Report*. Swindon Youth Offending Team. Unpublished interim report. Retrieved from: http://ww5.swindon.gov.uk/moderngov/mgConvert2PDF.aspx?ID=30171

Soldatova, G.U. (1998). *Psikhologiya mezhetnicheskoy napryazhennosti*. Moscow: Smysl.

Zaitsev, V.P. (1981). Variant psikhologicheskogo testa Mini-Mult. *Psikhologicheskiy zhurnal, 3*, 118-123.

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Correlation between Emotional Competence and Behavioral Problems in Elementary School Students with ADHD

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Abstract

This study attempted to explore the connection between emotional competence and adaptation to life in pupils with ADHD from Southern Taiwan. In addition to analyzing how 32 children with ADHD performed on the scales used, this study was also intended to show the current state of their emotional competence and adaptations to life and understand the correlation between the two.

Results of this study reveal the following four key points. (I) The elementary school students with ADHD rated that they have greater emotional competence than their average peers, particularly the competence of 'emotional awareness', a result significantly different from those from previous studies of emotion. (II) The elementary school students with ADHD scored high on the two scales 'Problems with Self-Care' and 'Problems at School' among their self-rated behavioral problems. (III) There is a considerable difference between the self-assessment by the elementary school students with ADHD and the assessment by the outer world. (IV) 'Emotional expression', 'emotional effectiveness' and 'emotional reflection' were able to predict 'problems at school' in the elementary school students with ADHD. Based on these findings, the researcher makes the following suggestions for further exploration and integration regarding this topic.

Keywords: emotional competence, behavioral problems, ADHD

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Introduction

On the scene of elementary education, many pupils with emotional disorders are likely to attract attention due to their emotional outbursts and especially those diagnosed with ADHD are even more likely to have problems controlling their impulsivity. The prevalence of ADHD in childhood is 3-8%. When its symptoms are manifested, the afflicted pupils are likely to have physical or verbal confrontations with their peers or teachers and exhibit behaviors such as defiance or aggression, which cause rejections or negative opinions from their teachers and peers and tremendous impact on their school adaptations (Barkly, 2006). The behavioral, emotional and learning problems caused by symptoms of ADHD plus traumatic experiences and conflict-prone family relationships in childhood cause the symptoms of ADHD in 35-60% children to continue into their adulthood (Miranda, Sorian, Femandez, & Melia, 2008). Therefore, the elementary school stage is a phase in which children with ADHD begin to experience more control difficulties and conflicts and educators need to pay close attention and give them support.

Although the core symptoms exhibited by children with ADHD are the three problems: attention deficit, hyperactivity and impulsivity, Brown (2002, 2005) found in his clinical experiences that even DSM-IV does not incorporate problems with emotion regulation into diagnostic criteria for ADHD while many children or adolescents diagnosed with ADHD suffer long-term negative emotions such as frustration, anger, worry and disappointment and have difficulties regulating these emotions and it is hard for them to deal with these negative emotions on their own once they have occurred. Kats-Gold, Besser and Priel (2007) also agreed that emotional problems in children with ADHD is another field of research to be developed particularly because such problems are the main cause for the lack of social skills in these children. Interpersonal interactions that children with ADHD have, including their relationships with their parents, siblings, peers and teachers, are often deemed negative and more prone to conflicts. Nevertheless, good interpersonal interaction requires understanding of others' emotional state so as to react appropriately and effectively. Braaten and Rosen (2000) also noted that children with ADHD not only are less capable of identifying and understanding others' emotions, but are also less perceptive of their own emotional experiences. Therefore, solving interpersonal problems in children with ADHD can be the starting point for understanding the process in which children with ADHD deal with emotions.

Currently identified psychological causes of ADHD in children are mostly focused on cognitive deficits in these children. Recent studies and their findings include the following. Fine, Semrud-Clikeman, Butcher and Walkowiak (2008) suggested that inattention is a key cause for the deficit in children in identifying others' emotions. Aase and Sagvolden (2006) on the other hand suggested that children with ADHD have motivation deficit and their oversensitivity to rewards or extreme dislike of delay means higher rewards are necessary to motivate them or difficulty in keeping them motivated in the event of insufficient rewards or delay. Kats-Gold et al. (2007) agreed with the views set forth by Corbett and Glidden (2000). All of them suggested that executive function deficits in the prefrontal cortex in children with ADHD actually cause difficulties in emotion regulation, but such difficulties mainly occur in more complex simulation scenarios, such as occurrence of strong emotional reactions to trigger stimuli or unpredictability of emotional reactions to future incidents.

Past studies of adaptation to life in pupils with ADHD were based on either the school setting (Shen, 2009) or the family setting. Our literature review revealed that pupils with ADHD have more emotional, interpersonal and rule violation problems than average pupils (Young & Gudjonsson, 2006). Most children with ADHD are less capable of self-monitoring than average children, which is disadvantage to their performance in interpersonal interactions (Kim & Kaiser, 2000). For these reasons, this study attempted to examine the relationship between emotional competence and adaptation to life in pupils with ADHD from Southern Taiwan for these objectives: identifying the current state of emotional competence and adaptation to life in pupils with ADHD, understanding the correlation between the two, and making suggestions for further research and consolidation regarding this issue based on our findings.

Objectives

(I) Understanding the current state of emotional competence and behavioral problems in pupils with ADHD.
(II) Examining the correlation between emotional competence and behavioral problems in pupils with ADHD.

Hypotheses

(I) Emotional competence in pupils with ADHD is significantly different from that in average pupils.

(II) Behavioral problems in pupils with ADHD are significantly different from those in average pupils.

(III) There is a correlation between emotional competence and behavioral problems in pupils with ADHD.

Samples

For this study, purposive sampling was used. The 32 valid samples were chosen from fourth-sixth grade elementary school pupils confirmed to have ADHD, evenly distributed across fourth-sixth grades and in the boy to girl ratio of 28:4, which is in line with the assumption that boys have a higher ADHD incidence than girls.

Tools

(I) Scale for Behavioral Problems

The scale was developed by Li and Ou (2008) by taking into accounts the actual situations and teachers' experiences at junior high and elementary schools and deliberating related behavioral problems or adaptation to life. It consists of five sub-scales and one measure of honesty. The sub-scales cover: (1) 'problems with self-care': including life goals, personal abilities and care for others' ratings; (2) 'problems with physical and mental development': including physiological development, mental strength, emotional stability etc.; (3) 'problems with school life': including homework and routines, learning attitudes and habits, teachers' methods of discipline etc.; (4) 'problems with interpersonal relationships': including interactions with peers, social skills, pupil-teacher interactions etc.; and (5) 'problems with family life': including parent-child communication, family problems and parents' attitudes towards discipline etc.

(II) Scale for Emotional Adjustment in Elementary School Pupils

The scale was developed by Hsiao (2002) and includes five factors: emotional expression, emotion perception, adjustment strategy, emotional effectiveness and emotional reflection.

Data Analysis

Collected sample data, removed of those with incompleteness in large part or less

reliable responses, were treated statistically with SPSS 20.0.

Results and Discussion

I. Current State of Emotional Competence and Behavioral Problems in Pupils with ADHD

(I) Self-ratings by the elementary school pupils differed greatly from external ratings. The elementary school pupils with ADHD gave themselves higher ratings than their average peers in all of these dimensions: 'emotional expression', 'emotion perception', 'adjustment strategy', 'emotional effectiveness' and 'emotional reflection', especially in the subscale of 'emotion perception'. This result significantly differs from the findings by Taiwanese and international researchers. For example, Corbett and Glidden (2000) noted that children with ADHD performed more poorly not only in attention and behavioral inhibition ability, but also in visual and auditory identification of emotions, compared to those in the control group.

Kats-Gold and Priel (2009) also found that children at high risk for ADHD are actually less capable of expressing negative emotions and comprehending emotion regulation. Although few have conducted empirical research directly on children with ADHD to examine their emotional competence, most Taiwanese researchers support the view that children with ADHD are less capable of emotion perception (Hsu, 2011). The difference is presumably linked to 'the typical positive perceptual bias towards over-rating of self-perception by children with ADHD' suggested by Su (2008). The aforementioned result of this study supports this view. The same bias also makes it more difficult for children with ADHD to monitor and adjust their emotions. When this happens on the scene of education or counseling, inconsistency in mutual perceptions and the understanding of inner needs is very likely to occur between educators and children with ADHD and in turn hinders effective counseling.

Some international researchers also pointed out differences between the self-ratings by children with ADHD and the ratings by their parents (Braaten & Rosen, 2000) with the parents rating that their children with ADHD have more apparent emotional problems while the children do not think or perceive that they have such problems (Friedman, et al., 2003); whereas, others presented entirely different results showing that children with ADHD actually realize that they have difficulties controlling their emotions (Scime & Norvilitis, 2006).

Therefore, whether the self-rated emotional competence by children is valid and reliable data or may vary according to the assessment tools used and whether there are currently available tools that can effectively assess the ability of emotion comprehension, emotional expression or emotion regulation in children are the aspects that can be further examined in subsequent research.

(II) The elementary school pupils with ADHD scored higher than average pupils in 'problems with self-care' and 'problems with school life', especially in the latter.

Children with ADHD are more sensitive to learning and pupil-teacher conflicts in school life and more susceptible to self-doubt and low self-esteem than average pupils. There are more international studies that examined learning problems in pupils with ADHD and showed that such pupils often have low academic achievement compared to their peers. Taiwanese researchers such as Lee (2007) found that learning difficulties caused by ADHD can continue into adulthood and Shen (2009) discovered that pupils with ADHD have more learning difficulties in academic subjects and consequently exhibit more interfering behaviors and are likely to give up when they fall too far behind academically even though they care about their grades.

Ii. Correlation between Emotional Competence and Behavioral Problems in The Elementary School Pupils with ADHD

(I) The 'Scale for Emotional Adjustment' and 'Scale for Behavioral Problems' show that most pairs of their respective subscales have reached significance levels of correlation.

(II) Among the pairs of respective subscales in the two scales, one pair, i.e. 'emotional expression - school life', have reached the significance level of .05.

(III) The two pairs, 'emotional reflection - school life' and 'emotional effectiveness - school life', have reached the significance level of .01.

(IV) 'Problems with school life' is the item that troubles the pupils with ADHD most.

Table 1

Correlations and Descriptive Statistics (N = 32)

Variables	1	2	3	4	5	6	7	8	9	10
emotion perception	–									
emotional expression	-.008	–								
adjustment strategy	.059	.426*	–							
emotional reflection	.251	.683**	.291	–						
emotional effectiveness	.317	.487**	.530**	.638**	–					
problems with self-care	-.005	-.277	-.102	-.165	-.202	–				
problems with physical and mental development	-.022	-.093	-.025	-.013	-.062	.740**	–			
problems with school life	-.174	-.352*	-.195	-.501**	-.471**	.562**	.508**	–		
problems with interpersonal relationships	.092	-.117	.048	-.090	-.230	.591**	.550**	.408*	–	
problems with family life	.115	-.049	.072	-.153	-.131	.472**	.559**	.474**	.621**	–

*p < .05. **p < .01.

Iii. Predictability of Behavioral Problems in the Elementary School Pupils with ADHD Based on Their Emotional Competence

Table 2 shows 'school life' has stronger correlations to 'emotional expression', 'emotional effectiveness' and 'emotional reflection'. Therefore, linear regression was used to analyze how well the pupils' ratings using the scale for emotional adjustment can predict their problems with school life and the results are shown in Table 2.

Table 2

The model predicting 'problems with school life' based on 'emotional expression', 'emotional effectiveness' and 'emotional reflection'

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R	R-square	Adjusted R-square	Estimated standard error	R-square change	F change	Significance F change
.538a	.290	.214	5.92446	.290	3.805	.021

a. Predictor variables: (constants), emotional effectiveness, emotional expression, emotional reflection

Results of the analysis show that the three subscales: 'emotional expression', 'emotional effectiveness' and 'emotional reflection', can predict 'problems with school life' in the elementary school pupils with ADHD with 29% of variance explained, which is an average proportion, indicating there are other key factors that can be explored and incorporated into further research.

The findings of this study suggest that pupils with ADHD are more troubled by problems with school life when they perceive their emotional expression, emotional reflection and emotional effectiveness to be more inadequate. The implication behind this may be that the frustration which children with ADHD are more likely to feel and which may even interact with their emotional state combined with the feedback on their emotional competence that they receive more easily in the school setting makes them more perceptive in this aspect.

Suggestions

Results of this study reveal the following four key points. (I) The elementary school students with ADHD rated that they have greater emotional competence than their average peers, particularly the competence of 'emotional awareness', a result significantly different from those from previous studies of emotion. (II) The elementary school students with ADHD scored high on the two scales 'Problems with Self-Care' and 'Problems at School' among their self-rated behavioral problems. (III) There is a considerable difference between the self-assessment by the elementary school students with ADHD and the assessment by the outer world. (IV) 'Emotional expression', 'emotional effectiveness' and 'emotional reflection' were able to predict 'problems at school' in the elementary school students with ADHD. Based on these findings, the researcher makes the following suggestions for further exploration and integration regarding this topic:

(I) Suggestions for Counseling Practitioners

1. Assist pupils with ADHD in sensing differences between their perceptions and external assessments, thereby promoting their proper awareness of their own emotions.

2. Pay attention to see whether elementary students with ADHD have the tendency towards low self-esteem due to their emotional and behavioral problems.

3. Elementary students with ADHD mainly have problems at school. Improving their emotional competence in 'emotional expression', 'emotional effectiveness' and 'emotional reflection' can help reduce the extent of such problems.

(II) Suggestions for Further Research

1. Further research may expand data collection to include assessments of pupils with ADHD by primary caretakers and educators to see how differently the two groups perceive the troubled state in these pupils.

2. Since pupils with ADHD are susceptible to positive perceptual bias (response bias) while answering self-rating questionnaires, qualitative interviewing is suggested as an alternative to obtain more information on emotional competence and behavioral problems.

3. Further research may consider other variables (or mediator variables) that may influence behavioral problems in these pupils in addition to emotional competence and create models for the connection between emotion and problems in pupils with ADHD by examining the underlying causal pathways between the two using the integration model for potential variable path analysis in SEM.

References

Aase, H., & Sagvolden, T. (2006). Infrequent, but not frequent, reinforcers produce more variable responding and deficient sustained attention in young children with attention-deficit/hyperactivity disorder. Journal of Child Psychology and Psychiatry, 47, 457-471.

Barkley, R. A. (2006). Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment (3rd ed.). New York, NY: Guilford Press.

Braaten, E. B., & Rosen, L. A. (2000). Self-regulation of affect in attention deficit-hyperactivity disorder (ADHD) and non-ADHD Boys: Differences in empathic Responding. Journal of Consulting and Clinical Psychology, 68(2), 313-321.

Brown, T. E. (2002). DSM-IV: ADHD and executive function impairments. Advance Studies in Medicine, 2(25), 910-914.

Brown, T. E. (2005). Executive functions and attention deficit hyperactivity disorder: Implications of two conflicting views. International Journal of Disability, Development and Education, 53(1), 35-46.

Fine, J. G., Semrud-Clikeman, M., Butcher, B., & Walkowiak, J. (2008). Brief report: Attention effect on a measure of social perception. Journal of Autism Developmental Disorder, 38, 1797-1802.

Friedman, M., Chhabildas, N., Budhiraja, N., Willcutt, E. G., & Pennington, B. F. (2003). Etiology of comorbidity between ADHD and reading disability: Exploration of the assortative mating hypothesis. American Journal of Medical Genetics (Neuropsychiatric Genetics), 120B, 109-115.

Hom-Yi Lee (2007). A Case Study of Learning Strategies of ADHD Primary Inattentive Type-A College Student. Formosa Journal of Mental Health, 20(4), 317-341。

Hui-Lan Shen (2008). On the Adjustment of Attention Deficit Hyperactivity Disorder Students in Junior High School. (Master's thesis, Institute of Transition and Leisure Education for Individuals with Disabilities in University of Taipei). Retrieved from http://handle.ncl.edu.tw/11296/ndltd/85592735728573928332

Kats-Gold, I., Besser, A. & Priel, B. (2007). The role of simple emotion recognition skills among school aged boys at risk of ADHD. Journal of Abnormal Child Psychology. 35(3), 363-378.

Kats-Gold, I., & Priel, B. (2009). Emotion, understanding, and social skills among boys at risk of attention deficit hyperactivity disorder. Psychology in the School, 46(7), 658-678.

Kim, O. H., & Kaiser, A. P. (2000). Language characteristics of children with ADHD. Communication Disorders Quarterly, 21(3), 154-166.

Li-Yu Shyu (2011). The Emotion Competence of Children with Attention Deficit/Hyperactivity Disorder. Research in Applied Psychology, 49, 67-89。

Miranda, A., Soriano, M., Fernandez, I., & Melia, A. (2008). Emotional and behavioural problems in children with attention deficit hyperactivity. Learning Disability Quarterly, 31(4), 171-185.

Pang-Chu Su (2009). Self-Perception of Children with ADHD. (Master's thesis, The Department of Psychology in Chung Yuan Christian University). Retrieved from http://handle.ncl.edu.tw/11296/ndltd/11411128775357645840

Scime, M., & Norvilitis, J. M.（2006）Task performance and response to frustration in children with attention deficit hyperactivity disorder. Psychology in the School, 43(3), 377-386.

Young, S., Kopelman, M., & Gudjonsson, G. (2009). Introduction to Forensic Issues in Psychology and Neuropsychology. In Young, S, Kopelman, M. & Gudjonsson, G. (Eds.) Forensic Neuropsychology in Practice: A Guide to Assessment and Legal Processes. Oxford University Press.

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The Study of the International Undergraduate Students' Adjustment Processes in Taiwan

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Abstract
The study investigates six international undergraduate students' adjustment processes in Taiwan based on the theoretical framework of phenomenology. To understand these international students' adjustment processes, the researcher invited 3 students from Southeast Asia and 3 from Central and South America respectively for semi-constructed interviews. Three themes that are relevant to international students' adjustment processes emerged from the data: (1) motives and prior preparation before coming to Taiwan, (2) mental and physical adjustments in Taiwan and (3) posterior perception and observation after coming to Taiwan. Based on the themes, the research findings can be summarized as the following: (1) Personality, resources in Taiwan and environment are the factors that affect international students' adjustment processes. (2) International students' adjustment processes in Taiwan can be divided into three phases: learning process in Taiwan, mental adaptation process and immanent and extrinsic supporting system. (3) Cultural differences including language, schoolwork, interpersonal communication, eating habits and school system related to their adjustment difficulties for these students. Finally, to assist international students better, the following suggestions are offered for school authorities: (1) Provide part-time working opportunities on campus to decrease their living expense. (2) Make their living environment more convenient. (3) Provide detailed content of the enrollment session and learning guidance for international students. (4) Provide more cultural-related visits or activities for international students along with Taiwanese students. (5) Highlight the function of the counseling centers.

Keywords: international students, adjustment process

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Introduction

In the globalization era, there are more and more foreign people coming to Taiwan to study and international education is popular in schools. The researcher who has had the experience of working with foreign teachers and international students in Taiwan and once studied in Australia for five weeks is aware of the importance of studying the issue about international students. To understand the international students' adjustment processes and the factors that influence international students' adjustment in Taiwan, the researcher invited 3 students from Southeast Asia and 3 from Central and South America respectively for semi-constructed interviews.

Human brain has the instinct of self-coordination, including accommodation and assimilation（Piaget, 1964）. And Arkoff (1968) thought adjustment is the interaction between individual and environment. According to Erikson's Psychosocial Developmental Theory, the undergraduate students are facing the "Intimacy vs. Isolation" stage. If they feel lonely and have problems of making good relationship, that means they're unadjusted (D. P. Schultz & S. E. Schultz, 2008). Chickering and Reisser (1993) also brought out their opinion about psychosocial development. They said there are seven vectors: Developing Competence, Managing Emotions, Moving Through Autonomy Toward Interdependence, Developing Mature Interpersonal Relationships, Establishing Identity, Developing Purpose and Developing Integrity.

Most undergraduate students expect for new life, like to take a risk and are eager for the freedom. However, because of the different life, environment and peers, they may encounter challenge and obstacles（Al-Qaisy, 2010）. For the international students, they will encounter different kinds of "culture shock". They usually need social network to help them (Constantine, Okazaki, Gainor, & Baden, 2005). Moreover, the curve of the cultural adaptation is like the letter "U" (Han, 2009; Huang & Lo, 1996) (Figure 1).
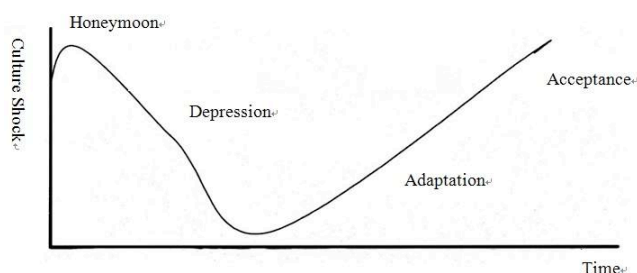
Figure 1: Cultural Adjustment Curve

Method

The study investigates six international undergraduate students' adjustment processes in Taiwan based on the theoretical framework of phenomenology. According to the percentage of the international undergraduate students in the southern part of Taiwan, top two with large proportion are students from Southeast Asia and Central and South America. So the subjects of this study are the international undergraduate students from Southeast Asia and Central and South America who come to Taiwan for the first time and have studied for more than one semester.

To understand these international students' adjustment processes, the researcher invited 4 students from Southeast Asia and 3 from Central and South America respectively for semi-constructed interviews (the student A is for the pilot study) (Table 1). Three themes that are relevant to international students' adjustment processes emerged from the data: (1) motives and prior preparation before coming to Taiwan, (2) mental and physical adjustments in Taiwan and (3) posterior perception and observation after coming to Taiwan.

Table 1
Participants' Data

symbol	assumed name	gender	nationality	age	year of arrival	Chinese background knowledge	experience of going abroad
A	Mark	M	Malaysia	22	2009	YES	NO
B	Ann	F	Indonesia	18	2011	NO	NO
C	Nick	M	Indonesia	18	2011	YES	YES
D	Mei	F	Vietnam	23	2009	YES	NO
E	Flower	F	Panama	23	2009	NO	YES
F	Aron	M	Guatemala	22	2008	NO	NO
G	Lin	F	Panama	23	2008	NO	NO

In order to increase the reliability of this study, the researcher uses triangulation approach with the College Students' Check List, the data of interview and the interaction between interviewees and the person in charge for international students' affairs. After doing semi-constructed interview, the researcher analyzes these data on the basis of phenomenological content analysis by following steps. First, try to describe, classify and compare the units of general meaning. Second, cluster the units of relevant meaning and focus on the context to find out the common theme or essence. Third, decide the themes from cluster of meaning. Finally, describe the contextualization of themes.

Results

According to the data of this study, the results can be divided into three parts. First, the international students' motivations of coming to Taiwan come from the scholarship, their intension to study abroad and their parents' or teachers' encouragement. Before they come to Taiwan, some of them have the background knowledge of Chinese, Taiwan and the subjects they'll learn. These will help them to adjust the new environment. Next, the external factors that affect the international undergraduate students' adjustment in Taiwan are language, study, environment, culture, diet, economy, and relative affairs at schools. Furthermore, there are two types of the mental adjustment processes after coming to Taiwan: (1) be homesick- be lonely- feel pressured- like and accept the environment. (2) be excited- be homesick- be lonely- be depressed- feel stable with time. No matter how long they've stayed in Taiwan, the learning and adjustment processes and the supporting systems are similar. Last, the international undergraduate students are more mature and have changed after studying in Taiwan. For example, they are more independent and have courage and confidence. They also learn a lot about the subjects, language and culture.

To sum up, the vectors of the international undergraduate students' adjustment process and the ways they adjust are illustrated in the Figure 2.
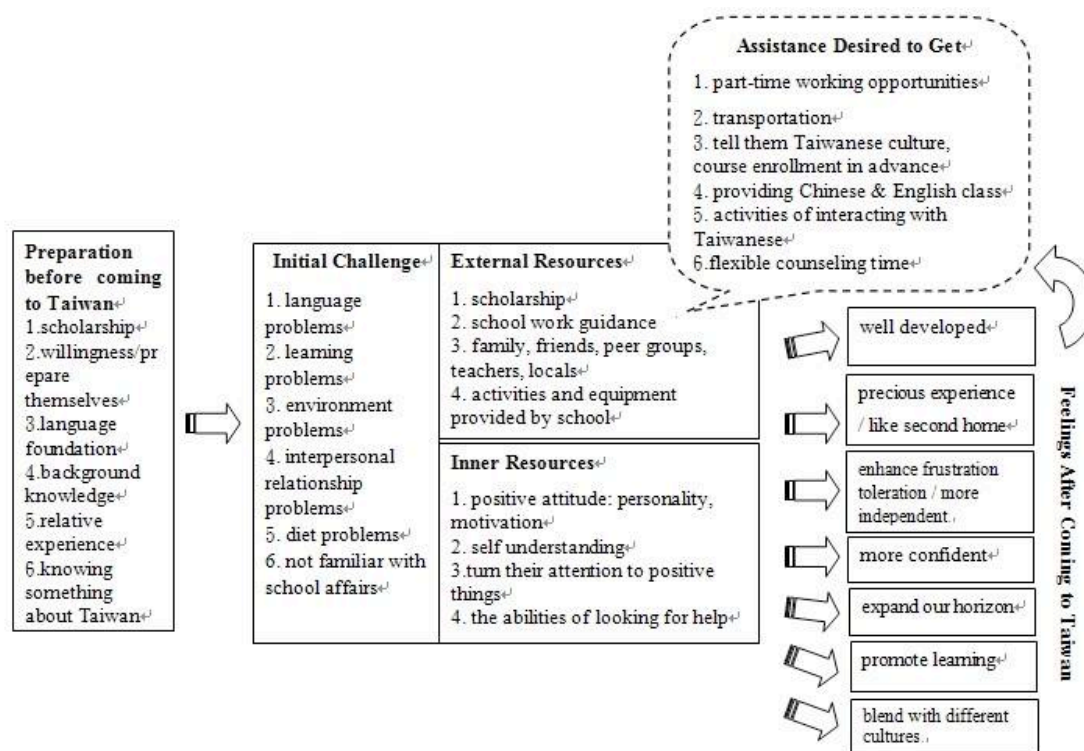
Figure 2: International Undergraduate Students' Adjustment Process in Taiwan

Conclusion

Based on the themes, the research findings can be summarized as the following: (1) Personality, resources in Taiwan and environment are the factors that affect international students' adjustment processes. (2) International students' adjustment processes in Taiwan can be divided into three phases: learning process in Taiwan, mental adaptation process and immanent and extrinsic supporting system. (3) Cultural differences including language, schoolwork, interpersonal communication, eating habits and school system related to their adjustment difficulties for these students.

Finally, to assist international students better, the following suggestions are offered for school authorities: (1) Provide part-time working opportunities on campus to decrease their living expense. (2) Make their living environment more convenient. (3) Provide detailed content of the enrollment session and learning guidance for international students. (4) Provide more cultural-related visits or activities for international students along with Taiwanese students. (5) Highlight the function of the counseling centers.

For future research, the study can be explored more thoroughly by interviewing students from the same country or recruiting students from various countries for cross-cultural comparison. Moreover, compile international students' adjustment scale and increase more research with quantitative and qualitative approaches. Last, using students' native languages in interviews to build up the researching relationship for in-depth information.

References

Al-Qaisy, L. M. (2010). Adjustment of College Freshmen: the Importance of Gender and Place of Residence. *International Journal of Psychological Students, 2*(1), 142-150.

Arkoff, A. (1968). *Adjustment and mental health.* New York: McGraw-Hill Book Company

Brick, J. (1991). *China: A handbook of intercultural communication.* Sydney: Macquarie University.

Chang, T. -F. (2008). *International Students' Adaptation Process and Cross-Cultural Training – A Case Study in the National Taiwan Normal University* (Unpublished master's thesis). National Taiwan Normal University, Taipei, Taiwan.

Chickering, A. W., & Reisser, L. (1993). *Education and Identity* (2nd ed.). New York, NY: Maxwell Macmillan International Publishing Group.

Constantine, M. G., Okazaki S., Gainor K. A., & Baden A. L. (2005). A qualitative investigation of the cultural adjustment experiences of Asian international college women. *Cultural Diversity and Ethnic Minority Psychology, 11*(2), 162-175.

Han, G. L., (2009). *The study on the international students' learning experiences and process of academic adjustment in Taiwan- The international undergraduate students of Normal Taiwan University as an example* (Unpublished master's thesis). National Taiwan Normal University, Taiwan.

Huang, L. H., & Lo, H. C. (1996). The study of the factors related to international students' adjustment problems. *Chinese Journal of Public Health, 15*(5), 457-468.

Piaget, J. (1964). *Cognitive development in children: development and learning. Science teaching and the development of reasoning.* Karplus, R. et al. (Eds.), U. of California, Berkeley.

Popadiuk, N., & Arthur, N. (2004). Counseling international students in Canadian Schools. *International Journal for the Advancement of Counseling, 26*(2), 125-145.

Schultz, D. P. & Schultz, S. E. (2008). *Theories of Personality* (9th ed.). Wadsworth Cengage Learning.

Wei, M., Heppner, P. P., Mallen, M., Ku, T.-Y., Liao, K. Y. -H., & Wu, T. -F. （2007）. Acculturative stress, perfectionism, years in U. S., and depression among Chinese international students. *Journal of Counseling Psychology, 54*（4）, 385-394.

Wei, M., Ku, T. -Y., Russell, D. W., Mallinckrodt, B., & Liao, K. Y.-H (2008). Moderating effects of three coping strategies and self-esteem on perceived discrimination and depressive symptoms: A minority stress model for Asian international students. *Journal of Counseling Psychology. 55*(4), 451-462.
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The Effect of Equine-Assisted Therapy on Visual-Motor Integration in Adolescent Autism Spectrum Disorders

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Abstract

The goal of the present study was to examine the effect of equine-assisted therapy (EAT) on visual-motor integration (VMI) in adolescent autism spectrum disorders (ASD). EAT was applied to eleven-year-old boy with ASD. The boy was attending in Cognitive Neuroscience Research unit of Human Development Academic Research, Mahidol University. The EAT sessions took place for twice a week in a period of four weeks. The boy's assessments were conducted in the baseline, middle, and end of four weeks' treatment and in a follow-up session one month after. Data at fourth week demonstrated positive changes, with improvements continuing one month after the session's completion, as measured by Test of Visual-Motor Integration (Beery VMI). The improvement reported was in visual perception, motor coordination and visual-motor coordination. Interestingly, The EAT is not only be an efficient therapeutic method of improving visual-motor integration, but also promote a positive effect on perceived communication, planning, memory, and reducing self-stimulatory behaviours, all of which may lead to elevate attention in classroom in children with ASD. Therefore, the beneficial of EAT showed the positive effect promising trend and suggest that to be considered as an alternative implement therapeutic for ASD.

Keywords: Adolescent, Autism spectrum disorders, equine assisted therapy, visual-motor integration

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Introduction

Presently, number of autistic people is rising across the entire world. Recent surveys in the United States show the number of this phenomenon is up markedly in five years ago from1:110 to 1 : 68 ratio US children in 2014 (Karen Weintraub,2011). As well as report in Asia demonstrated the number of children with autism has also increased significantly in countries Singapore, China, Japan including Thailand (Sun, X., & Allison, C. A., 2009). The classic feature of Autism Spectrum Disorders (ASD) is defined by deficits in three major areas of development: Speech and language, social interaction include repetitive and stereotyped behaviours that present in the first three years of life (Volker, M. A., & Lopata, C., 2008; American Psychiatric Association, 2013).

Interestingly, children and adolescents with ASD have been identified by many researchers as neurological disorders that affect aspects of an individual's sensory perceptions processes: tactile, vestibular, and proprioceptive (Akshoomoff, N., Pierce, K., & Courchesne, E., 2002; Brasic, J. R., & Gianutsos, J.G., 2000). Individuals with an ASD appear to have one or more abilities, or lack thereof, in the area of visual perception, fine-motor and visual-motor integration that are related. In addition, Beverdorf indicated that individuals with ASD showed impairment in copying tasks compare with normal children (Beversdorf, D. Q., 2001a).

Unfortunately there is currently no treatment for autism spectrum disorders. However, many different types of treatment have been developed and focused on symptom management; for example, medical therapy, applied behavior analysis (ABA), occupational therapy (OT), sensory integration (SI), as well as animal assisted therapy (AAT). Equine Assisted Therapy (EAT) is a subtype of AAT that utilizes a horse as a treatment. EAT also involves creating a connection between the patient and horse through grooming and being around each other. The literature contains evidences that EAT can be an effective intervention for improving self-esteem, directed attention, social functioning, motor skill, expressive language, cognitive, tolerance of change and sensory integration in autism (Bass et al. 2009; Gabriel et al.2012; Ward et al.2011; Pauw, J.,2000; Sandra et al. 2013; Burgon, H. L.,2011; Shoffner & Gabriels,2011).

Since the publication of those reviews, there have been limited study of EAT and individuals with autism spectrum disorders. To support EAT, it is the purpose of this study to investigate the effect of equine-assisted therapy on visual-motor integration in adolescent autism spectrum disorders.

Methodology

Subject

A single case study of an eleven-year-old boy with ASD who enrolled in EAT treatment in Cognitive Neuroscience Research unit of Human Development Academic Research, Mahidol University.

Inclusion and Exclusion Criteria

Inclusion Criteria
- The child had a chronological age (CA) between 10-13 years old
- The child was diagnosed with ASD, IQ scores >70
- The child was able to read, write and communicate with language.
- The child did not have severe physical disabilities, blindness, Down's syndrome, deafness, and/ or cerebral palsy.
- The child did not have epilepsy or seizure.

Exclusion Criteria
- The child had a chronological age (CA) under 10- year-old or over 13 –year-old
- The child was not diagnosed with ASD, IQ <70
- The child was unable to read, write and communicate with language.
- The child had severe physical disability, blindness, Down's syndrome, deafness, or cerebral palsy.
- The child with epilepsy or seizure.

Research Design

This study was conducted as a quasi-experimental, time series design.

O_1	$X\ O_2$	XO_3	XO_4	O_5	O_6

O_1 = The first baseline assessment
O_2 = The second baseline assessment
X = Equine- Assisted Therapy (EAT)
O_3 = The assessment during intervention
O_4 = The assessment after intervention
O_5 = The first assessment follow up
O_6 = The second assessment follow up

Procedure

The total time duration for completing the EAT lessons was 45 minutes took place for twice a week in a period of four weeks. EAT sessions under direction of a veterinarian and a psychologist who had intensive training in EAT. The 45-minutes timeframe of EAT consisted of 3 parts as follows;

Part 1: VMI activity (Calm down with table task before EAT sessions) for 15 minutes
Part 2: Horsemanship activities for 5 minutes, including mounting and dismounting.
Part 3: VMI activities for 25 minutes, including games of four buckets (see in figure 1)
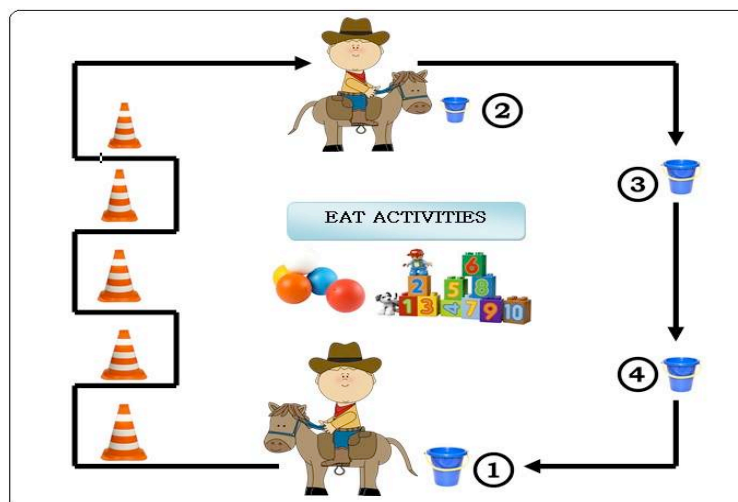
Figure 1: Equine-Assisted Therapy Sessions

Parents or guardians were present in the horse arena during all EAT sessions in a viewing area. During the therapy session was accompanied by horse leader (responsible for leading the horse), two side walkers (responsible for monitoring child during the horse riding) and one therapist was maintained throughout the course of sessions.

Instrument

The Questionnaire

The questionnaires were developed to control confounding variables were completed by the child's parents for general information about family background (i.e., marital status, education degree, income, family's activities, progress reported) and child's clinical profile. (i.e., medical history and developmental problem).

The Beery VMI

The Beery-Buktenica Development Test of Visual-Motor Integration (BEERY VMI) 6 th edition. VMI is a developmental sequence of geometric forms to be copied with paper and pencil without eraser. The study subject was given instructions how to perform the test and the time required to complete this test was about 10-15 minutes. The first set is visual-motor integration involves 30 items with 30 scores. The second is visual perception set comprised of 30 items with 30 scores. The last set is motor coordination including 30 items with 30 scores. The test scores were the children's raw scores, which will be compared as standard scores (Beery, K., & Beery, N., 2010).

Data Collection
- The consent forms and questionnaires were sent to parents of the child
- The BEERY VMI was administered at baseline, mid program, after complete program and follow-up one month after.
- The BEERY VMI scores were analyzed by using descriptive statistics.

Results

Clinical Profile

This subject of this study was a Thai adolescent male aged eleven-year- old with ASD. He lived in a single family with parents and his older brother. The study subject was diagnosed of high-functioning autism (HFA) at three of ages. When he was a kid he was not progressing at the same level compared with other children in the same age (i.e., gross and fine motor, speech and social interaction). His parent's reason for seeking EAT included the desire to have their son (1) increase attention and visual-motor integration as it relate to help him in classroom at school. (2) Increase social ability and communication it relates to his ability to participate and keep up with his peers. Prior to the intervention he couldn't imitate well and had self-stimulatory behaviours on visual (i.e., gazing at nothing in particular and repetitive blinking), auditory (i.e., vocalizing in the form of humming, making vocal sounds, and repeating vocal sequences or portions of songs at inappropriate times.), tactile (i.e., repetitive stab fingers to his body) that may interfered to participate in functional activities and learning tasks. Additionally, during the EAT intervention parents reported that he was receiving supplements vitamins, music, art, and occupational therapy.

The participant BEERY VMI scores of the six times point is shown in figure 2. Visual analysis of the data shows that the participant demonstrated improved all three domain of BEERY VMI; visual-motor integration, visual perception and motor coordination. The participant scores increased from baseline to after intervention and follow-up EAT sessions as well. (See in Figure 2)
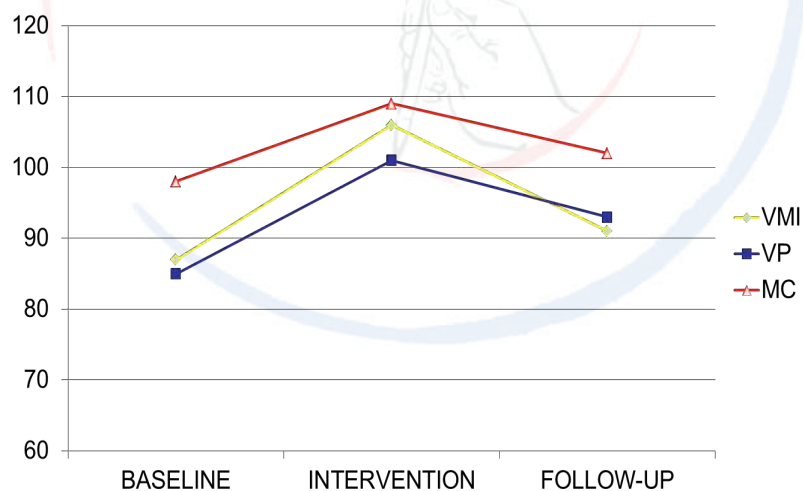
Figure 2 Displays the trends in VMI standard scores during baseline, middle, after and follow-up EAT sessions

Discussion

The present study was conducted to examine the effect of equine-assisted therapy on visual-motor integration in adolescent autism spectrum disorders. The eleven-year-old boy who had ASD was attended in Cognitive Neuroscience unit of Human Development Academic Research, Mahidol University. The EAT sessions took place for twice a week in a period of four weeks and the boy's assessments were conducted in the baseline, middle, end of four weeks and in a follow-up session one month after.

Result of currently study support the proposed hypothesis that after EAT sessions, the child performance improvement in visual-motor integration which comprise of visual perception and motor coordination as measured by Beery VMI. It is possible that the activities sessions designed for improvement on visual-motor integration that can help child to allow his vision and movement to work together in an efficient way (i.e., peg board, dot to dot, egg collection, and copy me games). Moreover, therapist's observed and parents of the child participating in this study also reported marked improvement in the area of communication, attention, planning, memory, as well as reducing challenging behaviours.

The reported improvement in communication maybe attributed to a variety of factors. Interestingly, it possible the child experienced physical and verbal communication with the horse. He touched them, brushed them, hugged them talk to them and rather than that he learned to take care of them. Furthermore he associated his emotional and feelings to them. This bounding may take lead to social and communication skills with other people as well. The participant also demonstrated in attention it is possible that the activities sessions design captivated his attention. He followed directions through fun activities that make taking direction easier to sustained level of focus and concentrate. In addition during EAT intervention his cognitive concepts was naturally improved. For example, child threw the different of sized and coloured balls in to baskets or more difficult by imitated therapist's posture at the centre while riding. This finding also found that child reduced challenging behaviour. It is possible that the entire therapy session participant spending time with a friendly animals for 4-week. Therefore, horse can help him feel stress relief, away from aggressive behaviour and calmer. Interestingly, these results were also have been noted in previous studied by Bass where the researchers reported that improvement in social motivation, attention and sensory sensitivity (Bass et al. 2009). Horseback riding has been indicated that participation improvement on expressive language, motor planning, and stereotype behaviour (Gabriels et al.2012). The equine assisted activities reported positive changes in physical, emotional and social functioning (Lanning et al.2014).

Limitations

In this study, there are a few limitations that should be addressed in future study. First, the subject that participated in this study also received other services that may have an influenced to the outcomes. Further study should establish in control extraneous variables and second, this study was short period of intervention. Further study should take a longer intervention in order that the intensive EAT sessions would have a greater improvement on VMI.

Acknowledgements

References

Akshoomoff, N., Pierce, K., & Courchesne, E. (2002). The neurobiological basis of autism from a developmental perspective. Development And Psychopathology, 14 (3), 613-634.

American Psychiatric Association. (2013). Cautionary statement for forensic use of DSM-5. In Diagnostic and statistical manual of mental disorders (5th ed). doi:10.1176/appi.books.9780890425596.744053

Bass, M. B., Duchowny, C. A., & Llabre, M. M. (2009). The effect of therapeutic horseback riding on social functioning of children with autism. Journal of Autism and Developmental Disorders,39, 1261–1267. doi:10.1007/s10803-009-0734-3.

Beery, K., & Beery, N. (2010). The Beery-Buktenica Developmental Test of Visual Motor Integration Sixth Edition. Bloomington, MN: Pearson.

Beversdorf, D. Q. (2001a). Macrographia in High-Functioning Adults with Autism Spectrum Disorder, 31, 97-101.

Brasic, J. R., & Gianutsos, J. G. (2000). Neuromotor assessment and autistic disorder.Autism, 4(3), 287-298. doi: 10.1177/1362361300004003005.

Burgon, H. L. (2011). 'Queen of the world': Experiences of 'at-risk young people participating in equine-assisted learning/therapy. Journal of Social Work Practice, 25, 165–183. doi:10.1080/02650533.2011.561304.

Gabriels, R. L., Agnew, J. A., Holt, K. D., Shoffner, A., Zhaozing, P.,Ruzzano, S., et al. (2012). Pilot study measuring the effects of therapeutic horseback riding on school-age children and adolescents with autism spectrum disorders. Research in Autism Sectrum Disorders, 6, 578–588.

Karen Weintraub. (2011). The prevalence puzzle: autism counts. Nature, 479, 22-24.

Lanning, B. A., Matyastik Baier, M.E., Ivey-Hatz, J., Krenek, N., Tubbs, J.D.(2014). Effect of equine Assisted Activities on Autism Spectrum Disorder. Journal of Autism and Developmental Disorders, 44, 1897-1907. doi:10.1007/s10803-014-2062-5.

Pauw, J. (2000). Therapeutic horseback riding studies: Problems experienced by researchers. Physiotherapy, 86, 523–527. doi:10.1016/S0031-9406(05) 60986-8. Professional Association of Therapeutic Horsemanship.

Sandra C. Ward, Kelly Whalon , Katrina Rusnak, Kimberly Wendell & Nancy Paschall. (2013). The Association Between Therapeutic Horseback Riding and the Social Communication and Sensory Reactions of Children with Autism Journal of Autism and Developmental Disorders, 43, 2190–219.

Shoffner, A., & Gabriels, R. (2011). Autism and therapeutic riding: A pilot study. Strides, 18(2), 11–15.

Sun, X., & Allison, C. A. (2009). Review of the prevalence of Autism Spectrum Disorder in Asia. Research in Autism Spectrum Disorders doi:10.1016/j.rasd.2009.10.003.

Volker, M. A., & Lopata, C. (2008). Autism: A review of biological bases, assessment   and intervention. School Psychology Quarterly, 23, 258–270. doi:10/1037/1045-3830.23.2.258.

Ward, S. C., Whalon, K., Stiles, K., & Smith, A. (2011). The effects of therapeutic horseback riding on children with autism. San Francisco, CA: Poster presented at the annual meeting of the National Association of School Psychologists

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Internal Image of Organization and Commitment of Employees[1]

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Abstract

The purpose of the investigation is to identify the relationship between internal image of organization and employees' commitment. The hypotheses of the study: 1) there is a relationship between the internal image of the organization and organizational commitment of employees; 2) affective component of organizational loyalty is mostly associated with the components of the internal image; 3) the activities and characteristics of the company mediate the relationship between internal image and employee commitment. The sample includes three Russian organizations (198 respondents). Methods: 1) the scale for internal image investigation developed by S.A. Shagzhina; 2) the questionnaire "The scale of organizational loyalty" by J. Meyer and N. Allen.

The existence of a relationship between internal image of organization and employees' commitment is demonstrated, and some interesting peculiarities of the correlations are revealed. It is established that the factor structure of the internal image is similar in different organizations, but the importance of different factors for employees varies depending on the particular type of organization. Affective commitment has closer ties with internal image of organization than other components of commitment. There are some universal correlations which are typical for every organization, for example, the correlation between the factor "Social Security" of internal image and affective commitment. On the other hand, there are some correlations between components of commitment and internal image that are specific only for one of the investigated organizations. We can conclude that there is correlation between internal image and organizational commitment, but it is mediated by organizational factors.

Keywords: internal image, external image, organizational commitment, organizational loyalty, affective commitment, normative commitment, continued commitment.

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Introduction

The problem of the phenomenon of organizational commitment and loyalty is one of the most popular in contemporary organizational psychology. A loyal staff creates a competitive advantage for a business organization, and even insures its survival in such extreme conditions as economic and political crisis. A loyal staff contributes to the quality of business processes, creates a positive external image of the company, and provides a healthy team atmosphereer, (Agatova, Smolyan, Solntseva, 2007; Valyuzhenich, 2007; Rgoades, Eisenberger, Armeli, 2001). This is why organizations are willing to finance corporate events, research and the creation of loyalty and commitment programs. These factors determine the importance and relevance of our investigation. The importance of the study is especially high during a period of crisis when an organization faces challenges it can manage only if it has loyal staff. The novelty of the investigation is conditioned by the findings of the correlation between commitment and internal image of organization and the role of organizational factors mediating this correlation.

Theoretical Background

The first scientific study of the phenomenon of organizational loyalty appeared at the beginning of the 20th century, and this area has been actively developed since the beginning of 60's - 70's. The concept of loyalty was developed in management, and later studies within the organizational psychology began to take place.

The definitions of organizational loyalty can be divided into two groups: 1) the definition of loyalty as commitment, dedication, which is facilitated by organizational factors (organizational commitment); 2) definition of loyalty as a special psychological phenomenon, directly related to the staff (employee loyalty). This division is typical for contemporary psychology, while the boundaries between the concepts of commitment and loyalty are blurred (Dominyak, 2003). In this paper we use the concepts of loyalty and commitment as synonyms.

In contemporary psychology the behavioral and attitudinal approaches to the investigation of loyalty and commitment are most popular. The behavioral approach assumes that loyalty is formed by the behavior of employees. There are three factors which influence the employee's behavior: 1) it is carried out in public; 2) it takes place on the basis of free choice; 3) the absence of loyal behavior leads to losses. Loyal behavior means that the employee wants to be a part of the organization and works more than required. At the same time the level of commitment to the organization depends on the ratio of remuneration and expenses. G. Becker presented his concept of loyalty, suggesting that, working in the same company, a person invests and accumulates experience that he does not want to lose during the transition to a new organization. In fact, this approach is based on the theory of positive and negative outcomes (Dominyak, 2003). However, some authors believe that loyal behavior depends on two factors: the loyalty of staff and situational factors. Workers' attitude is not entirely determined by their own behavior; situational factors (for example, labor market, the situation in the company, the employee's personal relationships), also play a significant role. Therefore, the organization is able to influence loyalty only through the situation in the company (Germanov, Plotnikova, 2003).

The second approach to the study of loyalty is the attitudinal approach. In this approach loyalty is considered as an attitude and as an emotional connection between the employee and the organization. Loyalty in this case is created by past experience, an employee's personal characteristics and his perception of the organization. L. Jowell considers an employee's commitment as an indicator of the strength of his connection with the organization. Loyalty is defined as the willingness of employees to make greater efforts on behalf of the organization, a strong desire to remain in the company, and acceptance of its main goals and values (Dominyak, 2003). Commitment in this case includes the identification with the organization, immersion in work and a sense of attachment to the company.

There are several concepts of understanding the phenomenon of loyalty within the attitudinal approach. Affective loyalty is regarded as pride in the organization, the desire to join it, involvement and attachment to it. Moral loyalty, as part of affective loyalty, implies the acceptance of the values and norms of the organization, its mission and goals. Normative loyalty defines the employee behavior, based on his belief that he should behave in a certain way. This kind of loyalty reflects the employee's sense of being obliged to the company. Normative loyalty can exist in the absence of affective loyalty. These concepts resonate with the three components of commitment described by D. Meyer and H. Allen: 1) affective commitment; 2) normative commitment; 3) continuance commitment (Meyer, Allen, 2007; Meyer, Allen, 1991). Affective commitment is based on emotional relationships between employee and organization as a result of positive work experience. Normative commitment is based on perceived obligations towards the organization. Continuance commitment reflects the perceived costs of leaving the organization. The three-component model is one of the most popular in organizational commitment research. Investigations indicate that commitment correlates with many organizational variables. Normative commitment is positively related to job evolvement, job satisfaction, organizational behavior, and negatively correlates with voluntary absenteeism, intention to leave the organization (Mathieu & Zajac, 1990; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Cooper-Hakim & Viswesvaran, 2005). Affective commitment is positively related to physical and psychological well-being of employees ((Meyer & Maltin, 2010).

Based on the above definitions, we consider commitment as an employees' acceptance of the organizational values, goals and standards. Commitment provides an interest in employee's professional development and in the development of the organization, as well as job satisfaction. We also consider all the processes inside the organization, both at the individual and at the organizational levels, as corporate organizational commitment factors.

Among the factors that promote the emergence and strengthening of organizational commitment, the following are most important: 1) compensation for adverse working conditions; 2) properly structured information policy; 3) promotion of team spirit; 4) caring for employees and help in resolving difficulties (Agatova, Smolyan, Solntseva, 2007). In studies of organizational commitment such factors as job satisfaction, organizational identification, and leadership are most widely discussed. However, among these factors the internal image of the organization rarely appears.

Internal image of organization is a way the employees perceive their organization (Gorbatkina, 2002; Meschaninov, 2009; Shagzhina, 2008; Hatch, Schultz, 1997). Internal image defines trust of employees to the organization and, as a consequence, the organizational commitment. Piskunova believes that effective creation of a positive image and trust in organization implies: 1) the quality of activities; 2) comfort level of activity; 3) the price of services; 4) the identity of the manager and his "team"; 5) the characteristics of the staff; 6) external attributes. According to the researcher, these components of internal image determine the perception of the organization (Piskunova, 1997). Meshchaninov proposed the following structure of the organizational image: 1) conceptual paradigm of the image; 2) the aesthetic program of its expression; 3) the concept of recipient (visual and verbal) (Meschaninov, 2009).

Shagzina defines the internal image of the organization as the "created purposefully or naturally image that reflects the characteristics of the organization in the minds (or subconscious) of employees, indicating the attractiveness (or unattractiveness) membership in the organization and influencing the behavior of employees" (Shagzhina, 2008, p 9). Shagzhina identifies three structural components of internal image: 1) self-actualization as a major factor (the development of professional skills and knowledge, the implementation of needs in career development); 2) social security (material well-being, job security in the future); 3) status prestige of the organization (reputation of the company, developed corporate symbols, the location of the organization, the image of organizational leader, the image of the product) (Shagzhina, 2008).

At the moment, there are few empirical studies which show the relationship between the internal image of the organization and commitment of employees. There are some studies showing that the differences between the actual and the desired organizational culture make low the level of organizational commitment (Valyuzhenich, 2007). There is evidence that the image of the organization can influence organizational commitment, but only on its emotional component. In this case, the relationship between the inner image and organizational commitment results in a high level of personal satisfaction with work (Shagzhina, 2008).

The Empirical Study of Internal Image and Organizational Commitment

The purpose of the investigation was to identify the relationship between employee commitment and internal image of organization.

Hypotheses of the study: 1) there is a relationship between the internal image of the organization and organizational commitment of the staff; 2) the affective component of organizational commitment is mostly associated with components of internal image; 3) the kind of business and some characteristics of organization mediate the relationship between internal image and employee commitment.

Sample

We investigated the staff of three organizations of Russian cities Lipetsk and Voronezh. A total of 198 respondents participated: company "A", located in the city

of Lipetsk, included 98 people; the number of respondents from companies "B" (47 people) and "C" (53 people), located in Voronezh, was 100.

Company "A" is a trade company which sells products in different regions of the world, except in Russia. All employees receive an official ("white") salary[2]. The organization strives to maintain the remuneration and social security, to create safe and comfortable working conditions, improve procedures to attract, hire, encourage adaptation and professional development.

Company "B" is a branch of an American company. The company produces and sells software for various purposes for legal entities in Russia and abroad. The personnel policy is aimed at attracting talented young professionals, graduates and students. The company provides a range of compensation and benefits in order to keep their employees such as teaching of English at the expense of the employer and compensation of sport club membership. The company office is equipped for comfortable work and rest. The salary is official, and it is rather high in comparison with other companies in the sphere of information technologies in the city. The company provides professional development opportunities.

Company "C" distributes foods in the Central and the Volga region of Russia. The company also sells products under its own brands. Most employees work outside the office: they are engaged in the delivery of products and stocking in retail chains and individual outlets in the areas of regions. The organization has positioned itself as caring about the professional development of each employee. Currently, 80% of trainings and seminars are held for sales staff. There is a high level of staff turnover in some departments. The salary is only partly official.

Methods: 1) the method of studying the internal image of the organization, developed by Shagzhina (Shagzhina, 2008). The method is a variant of a semantic differential, the results were processed by factor analysis; 2) the questionnaire "The scale of organizational commitment" developed by Meyer and Allen, in Russian translation made by Dominyak (Germanov, Plotnikova, 2008; Dominyak, 2004; Pochebut, 2001).

Results

In company "A" the following factors of internal image were identified (Fig. 1): "The ability and appeal for self-actualization and development" (the percentage of explained variance 21.7%), "Social security" (15.5%), "General attractiveness"(11.1%), "Status - prestige"(10.8%), "Trust"(10.4%).

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[2] In Russia, some companies avoid paying taxes, artificially reducing official (or "white") salaries of employees, giving the rest of the salary in cash (the so-called "black" salary). However, the amount of pension is calculated on the basis of the employee's official salary amount. Thus, in this scheme, employees are socially insecure.
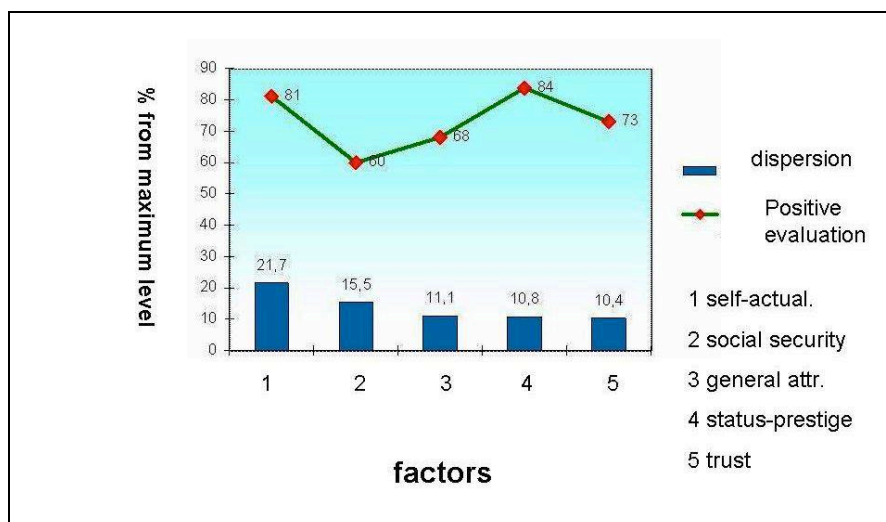
Figure 1: Company A: factors of internal image and their evaluations by employees

The study of organizational commitment in this organization showed that employees tend to stay in the organization due to severe involvement, attachment to the organization and identification with it (Fig. 2). This organization showed a high level of affective commitment (68%), and an average level of continued and normative commitment. Correlation analysis showed a correlation between factors of internal image with some components of organizational commitment: there are correlations between the factor "Ability and appeal to self-actualization and development" and the affective component of organizational commitment and continued commitment (p <0.05), the factor "Social security" and affective commitment (p <0.05).
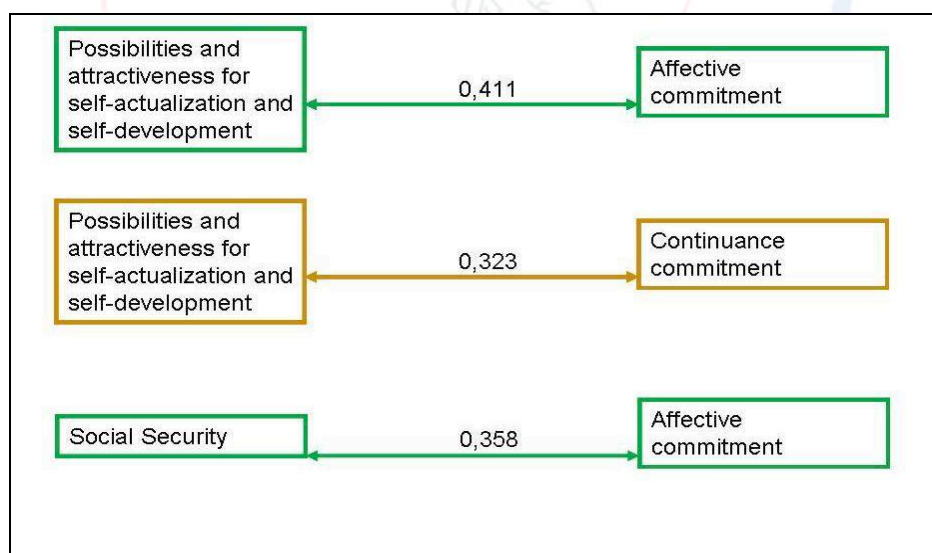
Figure 2: Company A: correlations between factors of internal image and components of organizational commitment (p < 0.05)

In company "B" the factor structure of internal image was the following (Fig. 3): "The ability and appeal to self-actualization and development" (38.5%), "Social security"

(22.7%), "General attractiveness" (17.1%), "The status-prestige" (7.1%), "Trust" (5.5%).
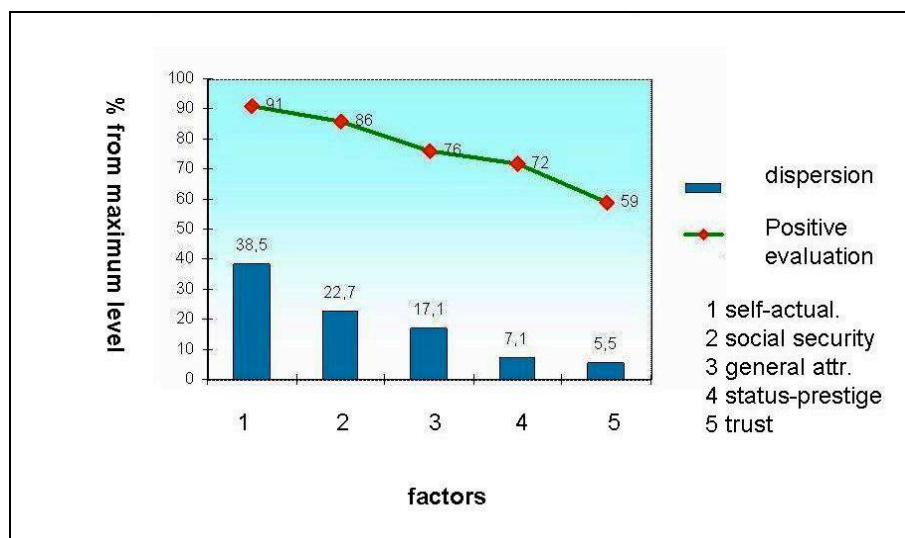
Figure 3: Company B: factors of internal image and their evaluations by employees

We discovered high level of affective commitment (79%) and continued commitment (69%), and the mean values on a scale of normative commitment (Fig. 4). Employees tend to stay in the organization due to the positive emotional relationship to the company, the attachment to it, and identification with it and its values. In addition, the company has a high level of continued loyalty, it indicates that employees remain in the organization, because they are quite appreciate their costs when moving to another job. Correlation analysis showed the correlation between factor "Ability and appeal to self-actualization and development" and the affective component of organizational commitment (p <0.05); between factor "Social security", and affective and continued commitment (p <0.05); between factor "General attractiveness" and continued commitment (p <0.05). Perhaps this relationship is due to the fact that in Voronezh at the moment there are not so many companies that are willing to provide their employees with a pleasant, comfortable work place.
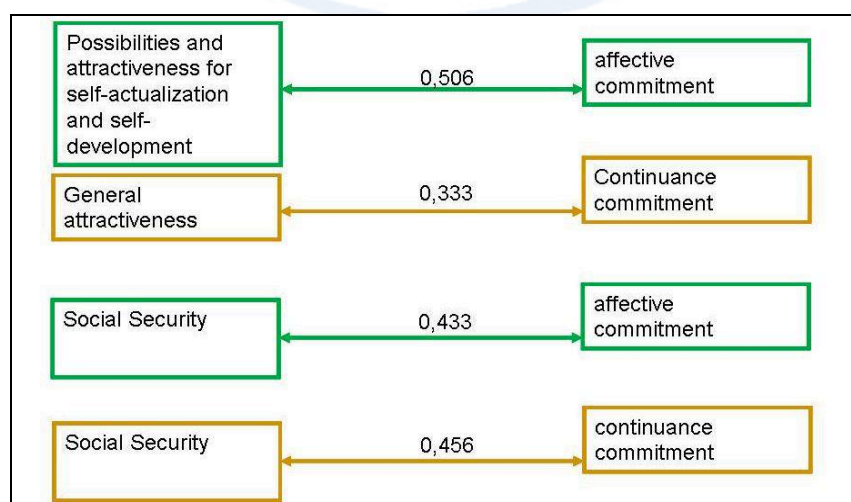
Figure 4: Company B: the correlations between factors of internal image and commitment components (p < 0.05)

In the company "C" (Fig. 5) we found the greatest weight of the factor "Social security" (25.6%). The next factor is the "Ability and appeal for self-actualization and development" (17.9%), and the follows are "Trust" (12.5%), "General attractiveness" (11.9%), "Status -prestige" (5,3%). It is interesting that the employees evaluate the factors "Trust" (66%), "Ability and appeal for self-actualization and the attractiveness and self-development" (63%) and" Status-prestige "(58%) as the most important, but in the structure of the internal image they presented weaker than factor "Social security".
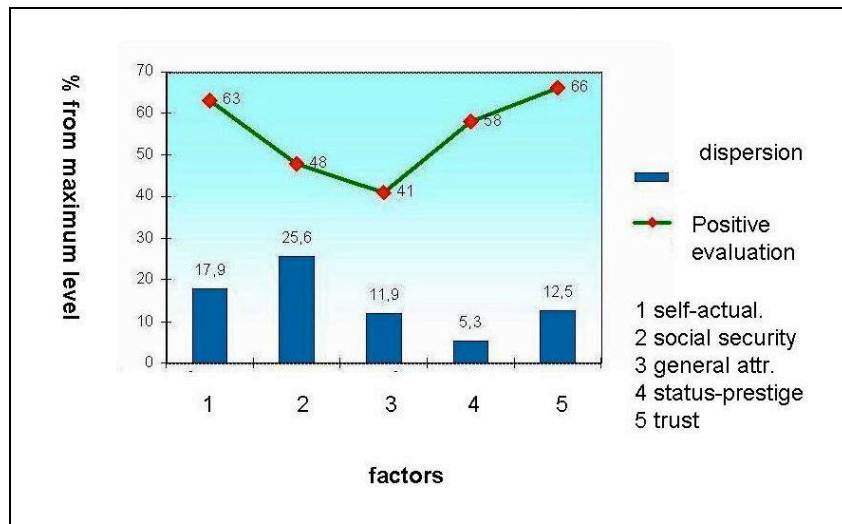
Figure 5: Company C: factors of internal image and their evaluations of employees

In general, all the values on the scale of organizational commitment are medium, which means that commitment is not high (Fig. 6). The highest is continued commitment (53%). That means that employees tend to stay in the organization due to the fact that they evaluate their costs when moving to another job. Correlation analysis revealed the correlation between factor "Ability and appeal for self-actualization and development" and affective commitment ($p < 0.05$), the factor "social security" with all loyalty scales ($p < 0.05$), and the factor of "Trust" was negatively associated with the normative component of commitment ($p < 0.05$).
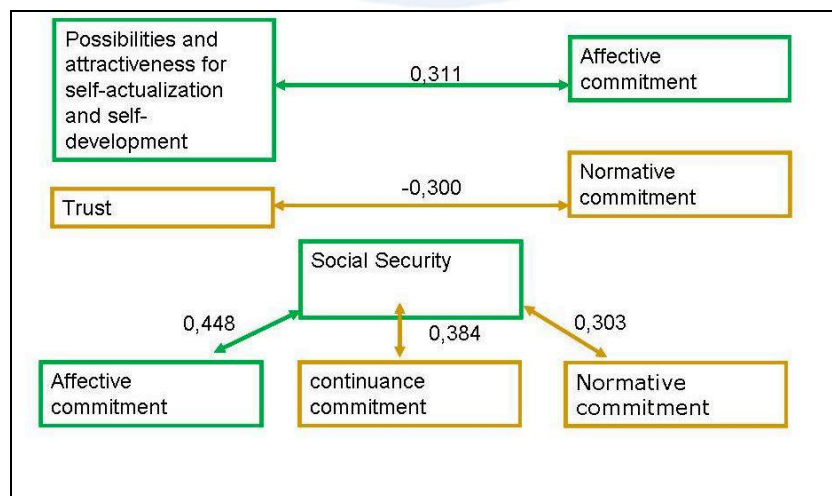
Figure 6: Company C: correlations between factors of internal image and commitment components ($p < 0.05$)

Discussion

The data showed that our hypothesis about the connection between internal image of the organization and employee's commitment was partly confirmed. We received the following correlations:

1. In all organizations a correlation between factor "Ability and appeal to self-actualization and development" and the affective component of organizational commitment was found. Thus, the affective commitment to the organization will be higher if employees perceive the organization as contributing to their self-actualization and development.

2. In all companies we found a correlation between the factor "Social security" and affective commitment.

Based on these two points, we can say that increasing of attractiveness for further development and to meeting empliyees' need for protection fosters positive attitudes to the organization. These links were also found in the study made by Shagzhina, which suggests that these relations are stable and do not depend on the areas in which the company operates, and its location.

3. However, we also found some correlations which are specific only for one of the investigated organizations:

a) In company "C" the factor "Social security" correlates not only with affective, but also with continued and normative commitment. Probably, this indicates that confidence in their position in the organization and guarantee of positive feeling within the company are so important that they ensure the commitment. In the same organization the factor "Trust" has a negative correlation with normative commitment.

b) In company "B" factor "General attractiveness" has a weak correlation with continued loyalty, which may also indicate the feasibility of working with this part of the internal image of the organization.

6. Related parameters and strength of correlation varies from organization to organization: we can assume that each of them have developed unique conditions that influence the internal image of the organization. We suppose that one important organizational factor is the official salary. Employees in the companies with official salaries feel more confident and pay more attention to the possibilities of professional development than to the social security.

Limitations

The limitations of our investigation are caused by its specific sample: we studied only three specific companies in specific Russian region. We tried to observe the companies with different businesses and characteristics, but of course it is impossible to cover all possible organizational conditions in one investigation.

Conclusion

We can conclude that our hypotheses were confirmed:

1) There is a correlation between internal image of organization and some components of organizational commitment.

2) There are correlations which are common for organizations with different characteristics: a) the correlation between factor "The ability and appeal to self-actualization and development" and the affective component of organizational commitment; b) the correlation between the factor "Social security" and the affective component of commitment. These correlations confirm our second hypothesis about closer ties of affective commitment with internal image of organization.

3) We found some links which are more typical only for certain companies: a) company "C" has some specific features: the factor of internal image "Social security" correlates with all components of organizational commitment, factor "Trust" has a negative correlation with normative commitment; b) in company "B" factor "General attractiveness" has weak correlation with continued loyalty. These correlations confirm our third hypothesis that some characteristics of organization mediate the relationship between internal image and employee commitment, but due to the limitations of our research, this problem needs further investigations.

Some authors believe that the image can only be deliberately created or also be dependent on spontaneously arising circumstances. Based on our analysis of the organizations that participated in our study, we can conclude that the internal image is formed both purposefully and as a result of the objective situation of the organization and some of its features. Internal image has strong correlations with organizational commitment and especially with its affective component, but these correlations are mediated by intra-organizational factors.

The results of the investigation can be used for elaboration the programs of increasing the stuff loyalty, as well as in organizational consulting and organizational culture developing.

References

Agatova L.A., Smolyan G.L., Solntseva G.N. Disloyalty staff as a threat to the organization's security // *Problems of risk management and safety: Proceedings of the Institute of Systems Analysis, Russian Academy of Sciences*. 2007. Vol 31. pp 216-230.

Cooper-Hakim, A., & Viswesvaran, C. (2005). The construct of work commitment: testing an integrative framework. *Psychological Bulletin*, 131(2), 241–59

Dominyak V.I. (2004). Measurement of loyalty: the current model // *Personal-MIKS*. № 2. pp. 114-119.

Dominyak V.I. (2003). Phenomenon of loyalty in the development of foreign researchers // *Personal-MIKS*. № 1. p 107-111.

Germanov I.A., Plotnikova E.B. Measuring the organizational loyalty of staff (experience testing methodology of Meyer - Allen). *Bulletin of Perm State University Philosophy. Psychology. Sociology.* 2008. Vol. 3 (7). S. 106-111.

Gorbatkina D.A. (2002). *Image of the organization (structure, functioning mechanisms, approaches to formation*): dis. ... Cand. psychol. Sciences. M. 169 p.

Hatch M.J., Schultz M. (1997). Relations between organizational culture, identity and image. *European Journal of Marketing*, 31, 5/6, p. 356-365.

Mathieu, J. E., & Zajac, D. M. (1990). A Review and Meta-Analysis of the Antecedents, Correlates, and Consequences of Organizational Commitment. *Psychological Bulletin*, 108(2), 171–194.

Meshchaninov A. (2009). *The image of the company*. . M.: " Novosti ". 280 p.

Meyer J.S., Allen N. (2007). Model of Organizational Commitment: Measurement Issues. *The Icfai Journal of Organizational Behavior*, Vol. VI, No. 4, p. 7 – 25.

Meyer J., Allen N. (1991) A three-component conceptualization of organizational commitment // *Human Resource Management Review*. Vol. 1. P. 61-89.

Meyer, J. P., & Maltin, E. R. (2010). Employee commitment and well-being: A critical review, theoretical framework and research agenda. *Journal of Vocational Behavior*, 77(2), 323– 337.

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61(1), 20–52.

Piskunova T.N. (1997). On the formation of the image of an educational institution // *Istochnik*. № 5-6. S. 24 -29.

Pochebut L.G. (2001) Evaluation of employee loyalty // *Practical work on the psychology of management and professional work* / ed. by G.S. Nikiforova, M.A. Dmitrieva, V.M. Snetkova. St. Petersburg: Rech, p 283-287.

Rhoades L., Eisenberger R., Armeli S. (2001). Affective commitment to the organization: the contribution of perceived organizational support // *Journal of Applied Psychology*. Vol. 86. P. 825-836.

Shagzhina S.A. (2008). *Relationship of the internal image of the organization and the organizational loyalty of employees*: dis. ... cand. psychol. sciences. M. 167 p.

Valyuzhenich N.E. Organizational culture and work motivation as factors of employee loyalty. // *Personnel Management*. 2007. № 16. C. 43-45.

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Mood and the Decision to Purchase High-Tech Products

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Abstract

The article describes the results of study of the influence of mood when people assessed different attributes of tablet computers. We assumed that the characteristics which people pay attention to when making a decision on a purchase, depend on their mood. The respondents (40 men, 24 women, the average age = 26,2 y.o., SD = 4,5) were randomly divided into two groups. The first group was put in a positive mood and the second group was put in a negative mood by means of two different videos from The Lion King cartoon. The first one was a comic scene with Timon and Pumbaa and the other one was a sad scene featuring the Lion's death. After watching the emotional state of the respondents was measured. Then they were asked to estimate the given list of characteristics for tablet computers and to rate each of them. The results showed that the respondents in a negative mood were more likely to make a cautious and rational decision and to opt for good quality and simple models at a lower price. Alternatively, the respondents in a positive mood were more likely to value a physical aspect such as an interesting design some extras, such as a free gift with purchase or a wide range of accessories, and other people's recommendations. The respondents in a good mood chose new models. This finding coincides with other studies which show that people in a good mood are risk-seeking than those who are in a bad mood.

Keywords: mood, information processing, consumer's decision making, evaluation of product attributes.

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Introduction

The modern market of high-tech products is in constant motion. Thanks to the development of new technologies new products always appear in the market. At the same time an existence of a big amount of producing companies leads to market overloading and consequently to further competition between them. Under these conditions companies face the problem of determinants of the consumer's behavior in the high-tech market.

Traditionally there was an assumption made by economists that the level of income and the price of a product were the only determinants of the consumer's purchasing behavior. However recently this point of view has been criticized. That is the reason why the researches begin to study specific psychological mechanisms of regulation of the consumer's behavior. Among theses mechanisms we can note an emotional state which influences different stages of purchasing process, from the moment the one identifies the need in a product, to its actual purchase (Blackwell et al., 2007). The results of the study of the influence of mood on a decision to purchase high-tech products will let us develop more effective sales strategies for companies. It also can be successfully used in consulting services regarding problems with various disabilities in the consumer's behavior.

Influence of an Emotional State on the Choice of Attributes

The influence of mood on general assessment of a product gained the greatest empirical support. The studies showed that people in a good mood evaluated products more positively than people in a bad mood. This regularity appears in the Consumer's behavior such as the evaluation of products which have just appeared in the market (Forgas, 1995), of products which are about to appear in the market (Barone, 2005), as well as of products which has already been purchased (Isen, 1987).

One of the key stages in a purchasing decision making process is the evaluation of product attributes. At this stage the consumer decides which product features are important for him, and then he uses these criteria to choose the right product.

The studies made in different psychological areas determined the three possible directions of influence of an emotional state on the choice of attributes.

Firstly, people in a good mood tend to perceive and remember positive things about an item, while people in a bad mood tend to see and remember negative things. There are two main explanations for these patterns. Some specialists suggest that emotions have the function of priming, i.e. availability of information correspondent to emotional increase in consciousness (Abele, Petzold, 1994). In other opinions, people in a good mood try to keep on their emotional state as long as possible, so they pay attention to the positive aspects of surrounding (Bagotsti, 2008).

Secondly, people who experience positive emotions tend to spend less time and efforts for researching information about a product, compared to those who experience negative emotions; the former respondents are more likely to use heuristic,

i.e. experience-based strategies for information processing and are less likely to research some product information in a thorough and systematic way (Bless et al., 1990; Forgas, 1998; Greifeneder, Bless, 2008; Ruder, Bless, 2003).

And thirdly, people who experience positive emotions tend to make more optimistic projections and are more likely to take risks, particularly, if the potential loss is not too high, as opposed to the people who experience negative emotions (Nygren et al., 1996; Johnson, Tversky, 1983).

Nevertheless, in the existing studies of the influence of mood on the consumer's decision the attention towards the process of assessing the significance of product attributes was not paid sufficiently. In addition, these studies don't take into account the category of goods. However, there is some evidence that people guide by different factors and rules when choose products of different categories (Dittmar et al., 1995).
This study examines the consumer's decisions in the field of high-tech goods production. This market has unique characteristics associated with a rapid development of technologies, a high level of innovation and fast product updates. These factors involve high risks for the consumer associated with use of new products as well as with their high price. For example, tablet computers recently have come into the Russian market and very quickly have become necessary gadgets for many people. Now almost all big companies which work in the high-tech area, produce tablet computers. It can be suggested that the choice of a tablet computer will be made under the influence of rational factors when functional parameters of a device will be compared with the customer's needs and income. However, the studies identified that the Consumer's attitude towards high-tech products is determined both by rational and emotional factors of choice.

The target of the study is to investigate the influence of mood in situation when people assessed different attributes of tablets. We assume that due to the mood people look for certain characteristics of a product when making purchasing decisions.

Method

The study consisted of two stages: the preliminary and main research.

The development of the technique for evaluating the strategies people use to research some product information before a purchase was the target of the preliminary stage of the research. . The participants were asked about their purchasing experience including the product characteristics they had looked for and the evaluation criteria they had used. It was found out that when purchasing a tablet computer the respondents had assessed the following product characteristics: functionality (quality, reliability, memory, processor speed); appearance (screen size, weight, design, colour); cost and service (price, discounts, warranty, customer support); popularity (brand awareness, advertising, friends' opinions). These parameters were used later in the main phase of the research.

People were invited to participate in the study of the consumer's behavior when buying tablet computers in the main part of the study. The respondents were randomly put into two study groups.

The members of the first group were put in a positive mood and the second group was put in a negative mood by means of two different videos from The Lion King cartoon. The first one was a comic scene with Timon and Pumbaa, and the other one was a sad scene featuring the Lion's death, After watching the emotional state of the respondents was measured. These episodes were estimated by the experts due to their ability to create a mood. After the watching of one of the two episodes each respondent filled in the HAM (Health-Activity-Mood) questionnaire (by A.Doskin et al). The further study involved only those respondents who scored no more than two points on the mood scale after watching the sad episode or at least six points after watching the funny video.

The respondents were then asked to imagine as if they were planning to purchase a tablet and had to decide which model to buy and where. They were given a list of product characteristics and asked to rate each of them on the following scale:

- not at all important;
- quite unimportant;
- not sure;
- quite important;
- very important.

Thus the respondents' mood was the independent variable while their assessment of relative importance of different product characteristics in choosing a tablet was the dependent variable.

Sample

The respondents who have recently purchased a tablet computer took part in the preliminary stage of investigation (7 men and 3 women, age from 23 to 31 y.o. (the average age = 26.4, SD = 3).

The sample of the main study included 64 respondents (40 men and 24 women, age - from 20 to 35 y.o. (the average age = 26.2 y.o., SD = 4.5). All respondents were going to buy a tablet, but had never done it before, so they had no experience in purchasing such a product.

Results

Mann-Whitney U test was used for the data processing. The results of evaluation of tablet attributes made by the respondents in various emotional states, were compared to each other.

Table 1 shows the significant mood-related differences in the perceived importance of tablet's attributes.

Table 1. Significant mood-related differences in the perceived importance of a tablet's attributes

Product characteristic	Average value		Value of the criterion
	Positive mood	Negative mood	
Attractive design	37.77	26,89	337.5 *
A wide range of accessories	40.58	23.9	245 **
Promo (free gift with purchase)	36.7	28.03	373*
Fashionable brand	38.83	25.76	302.5*
Popular model	38.45	26.16	315*
New model	41.11	23.34	227.5***
Advertisement	37.42	27.26	349*
Friends' advice and opinion	37.44	27.24	348.5 *
Ease of use	27.76	37.55	355*
Simple design	25.11	40.37	267.5**
Relatively low price	27.33	38	341*
Extended warranty	27.39	37.94	343*
Good customer support	28.18	37.1	369*

P <0.05, ** p <0.01, *** p <0.001.

It follows from the findings that the respondents in a negative mood were more likely to make a cautious and rational choice and to opt for good quality, simple models at a lower price.

Alternatively, the respondents in a positive mood were more likely to value a physical aspect, such as an interesting design; some extras, such as a free gift with purchase or a wide range of accessories, and others people's recommendations.

Conclusion

According to the results, mood has the following influence on the consumer's decision at the stage of evaluation of attributes of a product in the high-tech market:
1) The physical aspect of a product, i. e. an interesting design, free gifts with purchase and accessories were more important for people with positive emotions, whereas people in a bad mood valued simple models. One of the possible explanations is that they associated these attributes with fun that let them stay in a good mood. This fact illustrates the strategy of staying in a good mood (Bagotstsi, 2008), when the respondents do not value the functional attributes, but take into account external emotional attributes, which are known to increase positive emotions.

2) The tendency to take risk - seeking behavior. In a positive mood the respondents are more likely to overestimate the "emotional" product characteristics related to external characteristics, such as attractive design, etc., also they more likely to prefer

new models, in a negative mood they are at the forefront of "rational" characteristics, aimed at avoiding the risks associated with price, quality and warranty. This finding is consistent with the other studies showing that people who are in a good mood are more likely to take risks than those who are in a bad mood. (Nygren, Isen, Taylor, & Dulin, 1996).

3) The importance of external sources of information, It was found out that people in a good mood were more likely to trust advertising and other people's advice, and to prefer popular and trendy models as well. In contrast, the people in a negative mood focused more on functionality and ease of use. Such results can be explained by reducing of cognitive activity of a person who experience positive emotions. The respondents don't waste their energy on thinking, and use heuristics and others opinions and stereotypes. (Bless et al., 1990).

4) The importance of popular models. The attribute "fashion brand" is more significant for the respondents who are in a positive state. As noted in literature, brand attachment, the customer's idea about brand compliance with his self-concept and lifestyle are main factors in the Consumer's choice (Folomeeva, 2010). This attachment is more important for a positive emotional state, based on the concept of keeping on a mood.

5) Sales promotion was equally important for the two groups of the respondents. However, there were differences in promotion techniques of evaluation. For example, for the consumers in a bad mood the important aspect for buying a product is a low price, discounts and various free gifts with purchase that stimulate sales when they are in a positive emotional state.

At the same time the emotional state did not affect the evaluation of functional characteristics of a tablet computer, which determine its quality, such as memory, processor speed, type of operating system, screen resolution, sound quality, size and weight. These results suggest that mood influences on the importance of peripheral parameters of high-tech products, but doesn't affect its key characteristics.

Limitations

This study had some limitations. The experiment was carried out in the laboratory in isolation from the actual situation; the real samples of products were replaced by written descriptions on paper. Moreover, the differences between the various positive and negative emotions were not studied. Elimination of these limitations in the future studies will let us clarify the understanding of mood influence on assessment of high-tech products.

References

Abele A., Petzold P. (1994). How does mood operate in an impression formation task? An information integration approach. *European Journal of Social Psychology, 24,* 173–187.

Barone M.J. (2005). The interactive effects of mood and involvement on brand extension evaluations. *Journal of Consumer Psychology, 15, 3,* 263–270.

Bless H., Bohner G., Schwarz N., Strack F. (1990). Mood and persuasion — A cognitive response analysis. *Personality and Social Psychology Bulletin*, 16, 2, 331–345.

Dittmar H., Beattie J., Friese S. (1995). Gender identity and material symbols: Objects and decision considerations in impulse purchases. *Journal of Economic Psychology*, 16, 491–511.

Forgas J.P. (1995). Mood and judgement: The affect infusion model (AIM). *Psychological Bulletin*, 117, 1-39.

Forgas J.P. (1998). On being happy and mistaken: Mood effects on the fundamental attribution error. *Journal of Personality and Social Psychology*, 75, 2, 318–331.

Greifeneder R., Bless H. (2008). Depression and reliance on ease-of-retrieval experiences. *European Journal of Social Psychology*, 38, 213–230.

Isen A.M. (1987). Positive affect, cognitive processes, and social behavior. In L. Berkowitz (ed.), *Advances in experimental social psychology* (pp 203-253). N.Y.: Academic Press, vol. 20.

Johnson E.J., Tversky A. (1983). Affect, generalization, and the perception of risk. *Journal of Personality and Social Psychology*, 45, 1, 20–31.

Nygren T.E., Isen A.M., Taylor P.J., Dulin J. (1996). The influence of positive affect on the decision rule in risk situations: Focus on outcome (and especially avoidance of loss) rather than probability. *Organizational Behavior and Human Decision Processes*, 6, 1, 59–72.

Ruder M., Bless H. (2003). Mood and the reliance on the ease of retrieval heuristic. *Journal of Personality and Social Psychology*, 85, 1, 20–32.

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Examining LINE Users' Behavior, Motivation, Attitudes and Factors Influencing Use and Adoption of LINE Official Accounts in Thailand

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Abstract

LINE, the successful Japanese instant messaging (IM) application, was developed by NHN (Next Human Network) Japan Corporation. In June 2012, NHN provided 'LINE Official Accounts' (LINE OAs) aimed for firms to send messages directly to LINE users, who have added their accounts as friends. The objective of this research is to understand LINE users' behavior for improving of firms to use LINE OAs as mobile marketing communication efficiently. The online questionnaire survey were asked 306 LINE users in Thailand, the second ranked of LINE user. The results of this study show that most Thais use LINE because LINE is easy and prevalent. LINE users are daily use when they have free time or LINE alerts. The main objective of using LINE is to keep in touch with friends and family. Besides entertainment is the major motivation of LINE use. Most of LINE users have good attitude towards LINE. In this study, free stickers, 'Block' function and messages were investigated that influence on adoption and use of LINE OAs. The results indicate that most of LINE users add LINE OAs because of free stickers which corroborate the ideas of NHN, who develop the users' attraction by 'Business Stickers'. Furthermore LINE users feel firms aren't intrusive of LINE users' privacies and have positive attitude with firms by 'Block' function. Moreover LINE users could know, recognize some brands and follow firms' update news by receiving LINE OAs' messages. Finally, Operation development of LINE OAs are discussed.

Key words: LINE, Thailand, Motivation and Attitude

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1. Introduction

1.1 Research Background and Motivation

During the past few year, many applications were developed for smart-phone especially instant messaging (IM) applications (app). In this smart-phone era, many marketers use IM app as a tool of mobile marketing communications. LINE is a one of IM app becoming the mobile communication channel and an alternative for advertisers to communicate with consumers through LINE OAs feature. LINE is an IM app developed by employees of NHN (Next Human Network) Japan, a subsidiary of South Korean internet company Naver, and released for public use in June 2011 (LINE Corporation Global News, 2013). LINE began after telecommunication infrastructure nationwide was damaged because of Japan's devastating Tōhoku earthquake in March 2011 (Saito, 2012). LINE was originally developed for Android and iOS smartphones. But now the service has since expanded to many phone such as Windows Phone (LINE Official Blog, 2012b), BlackBerry (LINE Official Blog, 2012c) and Nokia Asha (LINE Official Blog, 2013) etc. The application also exists in versions for laptop and desktop computers (LINE Official Blog, 2012a) using the Microsoft Windows and Mac OS platforms. LINE is free to download, install and provides many features for user includes text messaging, video calling, picture/video sending, location sharing and etc.

LINE is a successful Japanese IM app, reached 100 million users within eighteen months and 200 million users only six months later. This trend has continued and just 4 months after the last milestone of 300 million users, the amount of LINE users worldwide surpassed 400 million on April 1, 2014. (Shown in Fig. 1) (Corporation LINE, 2014) .
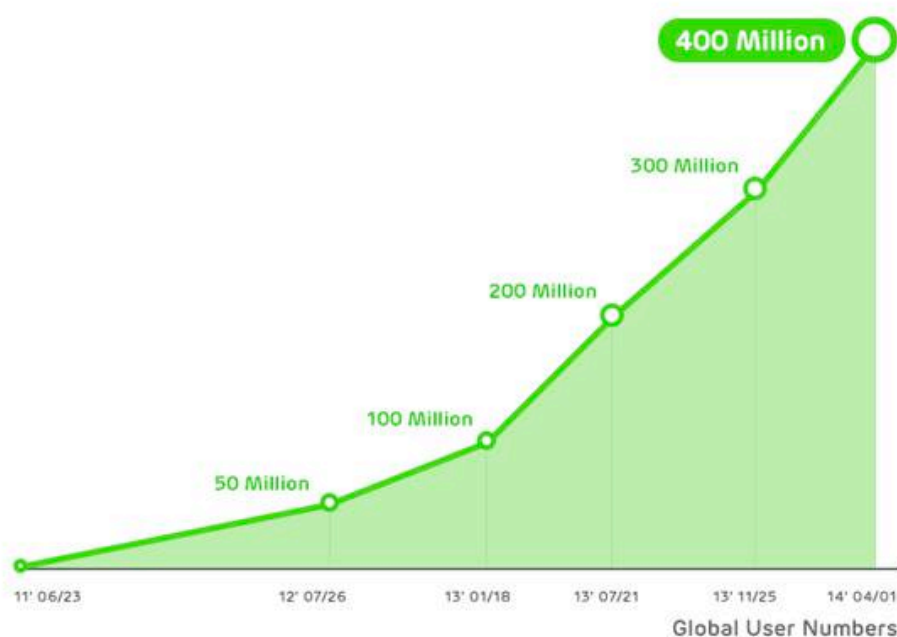
Fig. 1. Number of Global LINE user
Source:(Corporation LINE, 2014)

In October 2014 Line announced that it had attracted 560 million users worldwide with 170 million active user accounts (Statista, 2015a). Line also released an updated count of its registered users region by region. Of those, 54 million registered users are in Japan, 33 million in Thailand, 30 million in Indonesia, 18 million in Spain, and 17 million in Taiwan etc. (shown in Fig. 2) (Statista, 2015b). The overwhelming success of Line has made it the most popular social messaging network in Thailand. Thailand marks the fourth location of Line's official offices after setting up shop in Japan, South Korea and Taiwan. Moreover Thailand has the second most Line users globally (FERNQUEST, 2014). So Thailand was chosen as a country that used to do this study.

In June 2012, NHN Japan Corporation introduced LINE Official Accounts (LINE OAs) which is a feature allows firms to send messages directly to LINE users who have added their account as a 'friend'. 'Business Stickers' or free sticker in this study is the one feature that LINE OAs offer to develop the users' attraction and sense of closeness towards their business image. (NHN Japan Corporation, 2012).
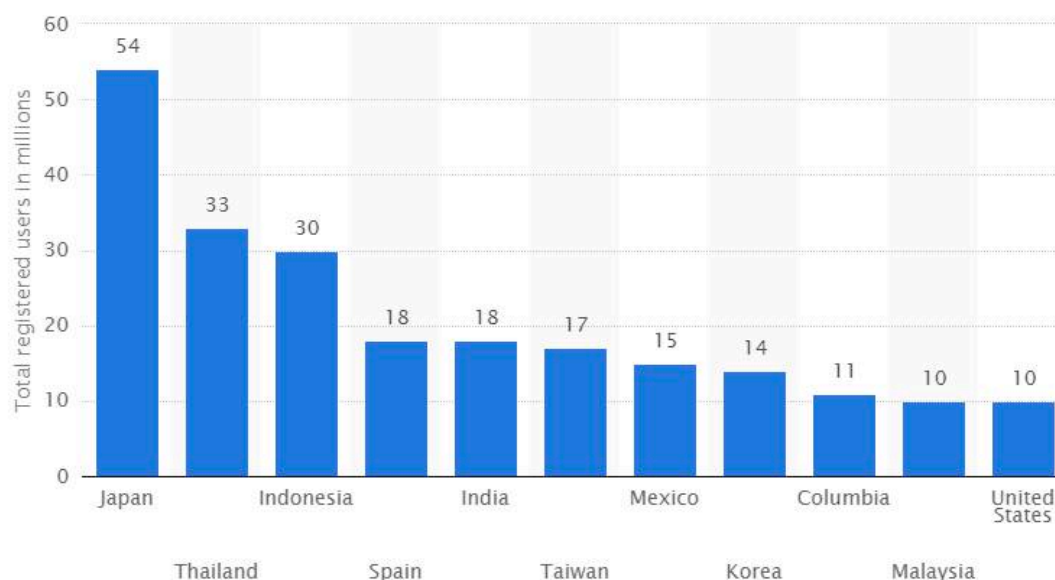
Fig. 2. Number of registered LINE app users in selected countries as of October 2014
Source: (Statista, 2015b)

However, users also can block the accounts after they add them as friends and download free stickers. So the main purpose of LINE OAs creating may not be achieve. To achieve LINE OAs' objectives, firms should understand LINE users' behavior. The behavior of LINE users can be explained as well as consumer behavior. Understanding consumer behavior is of utmost importance because the marketing of products/ services are largely dependent on these factors. Studying consumer behavior helps in many aspects such as helps firms to design the optimal products/ services, improve firm's performance, build a loyal customer and forecast future consumers' needs. Thus, consumer behavior serves as a successful tool for marketers in meeting their sales objectives. The more consumers' behavior is learnt the more the needs and wants of the consumers are fulfilled.

Regarding motivation, as Nevid (2013: 288) mentions 'motivation as factors that activate, direct, and sustain goal-directed behavior. … Motives are the "whys" of behavior - the needs or wants that drive behavior and explain what we do. We don't actually observe a motive; rather, we infer that one exists based on the behavior we observe.' (Nevid, 2013). Therefore more than behavior, firm should know LINE usage motivation to improve their service to meet LINE users' need.

Although LINE users can block the accounts as mentioned above, but blocking function may prevent users' negative attitudes toward firms. Another one of key in succeed of business is Customers' attitude. Either positive or negative attitude, in this era, word of mouth (WOM) is very easy and rapid spread via social media. Therefore, Firms should be cautious in attitude of consumers. If a consumer be satisfied and has a great attitude, they might share their experience to their friends which can be benefits to firms. But on the other hand, if consumers have negative attitude, they won't only stop using the product/ service, they might tell to others. This is substantially impact on firms such as loss customers, loss of sales and loss of reputation. Therefore, companies should pay more attention on consumer attitudes.

1.2 Research Objectives

The objectives of this research are
1. To examine LINE users' behavior, motivation and attitudes.
2. To understand the factors influencing use and adoption of LINE OAs.
3. To suggest firms to develop operation of LINE OAs.

The finding could contribute firms can achieve the objectives of creating LINE OAs such as increase users' willingness to receive and read their messages, join in accounts' activities and share some information to users' friends, minimize intrusive of user privacy which can also minimize users' negative attitude on firms. Moreover new customers or loyal customers of firms could be increase by following LINE OAs.

2. Literature Review

Since smart phone become a part of daily life, mobile application is the channel that firms adopt in their marketing operations to promote their products/ services, advertise or interact with customers. This is in accordance with Leeflang et al.' s (2014) finding that showed company home pages, e-mail, and social media are most commonly used in 2014 and over the next 2 – 4 years social media and mobile applications represent the biggest growth areas of digital marketing tools (Leeflang, Verhoef, Dahlström, & Freundt, 2014). In recent years, there has been an increasing amount of literature regarding customer's behavior, motivation or attitude toward mobile applications such as QR codes (Watson, McCarthy, & Rowley, 2013), WeChat (Lien & Cao, 2014).

To better understand customers' attitude on instant messaging application of smart phone, Lien & Cao (2014) survey WeChat's user in China, because WeChat is the one channel that marketers could use to directly communicate with their customers. Their results support for the hypothesis that entertainment, sociality, information, and trust positively influence WeChat users' attitudes. Moreover entertainment, sociality, and information were important motivation in adopting WeChat of Chinese users.

(Lien & Cao, 2014). In this study the questions about motivation, therefore, adapted questions of WeChat's study.

Chang & Zhu's comparative study (2011) found that entertainment motivation has a significant effect on pre-adopters of social network site (SNS) but no significant on post-adopters. In contrast, connecting with old friends has significant effect on post-adopters while has none on pre-adopters in China (Chang & Zhu, 2011). However Kim et al. (2011) suggested that SNS users in different countries have different motivations because of cultural differences. A comparison of the United states and Korea reveals that convenience have a significant effect on US SNS user attitudes, and the motivations of seeking social support and convenience have a significant effect on Korean SNS user attitudes. However, seeking information has no significant effect on SNS user attitudes in both countries (Kim, Sohn, & Choi, 2011). Thereby this study will examine Thais' motivation toward LINE usage.

Regarding the consumers' negative attitudes towards mobile marketing communications, the finding of previous study suggest that permission marketing, trust-building, creating a sense of being in control, and useful and entertaining website content can enhanced the acceptance of mobile marketing communication. Because perceptions mobile device of consumers are personal communication and preference on control interaction with organizations (Watson et al., 2013). 'Block' function, which LINE users can control interaction with organization, was considered to investigate as a factor that minimize intrusive of user privacy and minimize users' negative attitude on firms and also was enquired being one of factors influencing on adding LINE OAs in this study.

3. Research Framework and Methodology

3.1 Research Framework

The research framework (shown in Fig. 3) consists 2 parts. The first part is to examine behavior, motivation and attitude toward LINE usage of LINE users in Thailand. The second part is to investigate factors influencing use and adoption of LINE OAs which include free stickers, 'Block' function and messages. And because of LINE's feature and WeChat has similar, in term of motivation, Lien & Cao proposes that entertainment, sociality, and information are important motivations of Chinese users in adopting WeChat (Lien & Cao, 2014). This study, therefore, the motivation and attitude questionnaire's part were adapted from WeChat's study which they use Likert scale, but in this research use 'YES' or 'NO' question.
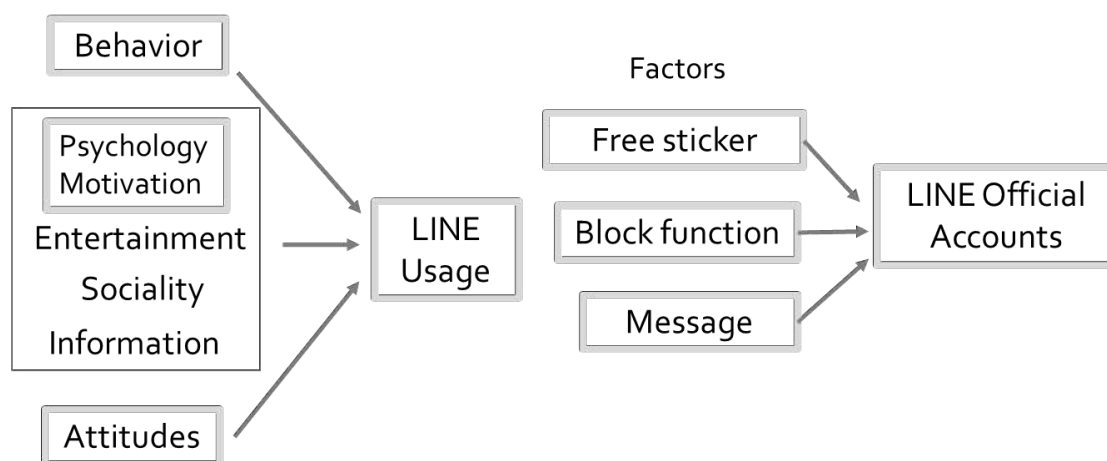
Fig. 3. Research framework

3.2 Research Sample

Our samples are Thai people who use LINE. The sample were collected during January 30 to February 22, 2015. A total of 352 respondents replied. After deleting sample with unreasonable responds, the numbers of valid observations were 306.

3.3 Measures

The survey questionnaire was developed with five sections. The first section is respondents' demographic (gender, age, occupation, education and income). The second section is LINE usage behavior. The third section is motivation (entertainment, sociality and information) and attitude toward the use of LINE. The forth section are the factors influencing adoption of official accounts which include free sticker, block function and official accounts' messages. The last section is operation development of LINE official accounts.

4. Research Result & Data Analysis

Data was analysed by SPSS software and was explained by Descriptive statistics and Inference statistic. In the form of Descriptive statistics, percentages was used for overview understand LINE users. Most of questions in questionnaire are multiple choice which means respondents can answer more than one answer. So the percentage not only show in each answer, but also show in comparative with other answers too. Moreover Inference statistics was used for more understand specific in each group of LINE users.

4.1 Descriptive Statistics

4.1.1 Demographic Data

Among 306 useable respondents, 71.6% of them were females. The majority of ages range is 25 to 35 with 37.9%. 31.4% of them were students, 25.6% were office worker/ employee and 19.2% were business owner/freelance. Most of them got Bachelor's Degree/ Undergraduate with 52.3%. And 35.0% of the respondents'

incomes were more than 30,000 baht. Table 1 shows the summary of demographic statistics.

Table 1. Summary of demographic statistics (N = 306)

Measure	*Item*	*Frequency*	*%*
1.1 Gender	male	87	28.4
	female	219	71.6
1.2 Age	15-24	81	26.5
	25-35	116	37.9
	36-45	31	10.1
	46-60	78	25.5
1.3 Occupation	student	96	31.4
	Bureaucrat/ state enterprise officer	47	15.4
	office worker/ employee	79	25.8
	business owner/freelance	59	19.3
	others	25	8.2
1.4 education	lower than Bachelor's Degree	48	15.7
	Bachelor's Degree/ Undergraduate	160	52.3
	Master's degree/ Doctor's degree	98	32.0
1.5 Income	less than 15,000	103	33.7
	15,000 - 30,000	96	31.4
	more than 30,000	107	35.0

4.1.2 LINE User Behavior

Table 2 summaries the behavior of LINE user behavior. It shows reasons why LINE users use LINE which includes easy (81.7%), prevalent (68.3%), free (55.6%), LINE sticker (45.8%), private (36.3%) and various functions (31.0%). The frequency of LINE usage is 95.4% daily use, 64.1% of them use LINE when they have free time and 52.1% use when it alert. The main objective of LINE user is 99.3% to keep in touch with friends and family. Most of LINE users (26.8%) have 50 – 100 friends on LINE.

4.1.3 Motivation and Attitude toward the Use of LINE

To examine motivation and attitude toward LINE usage, the results were summarize in table 3. In response to question of motivation part, LINE users indicated that motivation of LINE usage is entertainment 90%, sociality 74% and information 72%. Furthermore 94% of LINE users have good attitude toward LINE which is the most important for any firms and good attitude could effect to positive word of mouth. That is why LINE's so prevalent in Thailand.

Table 2. LINE user behavior (N = 306)

Questions	Answer	Frequency	%*	%**
2.1 Why do you use LINE App?	free	170	55.6	17
	easy	250	81.7	25
	private	111	36.3	11
	sticker	140	45.8	14
	various functions	95	31.0	10
	prevalent	209	68.3	21
	other	22	7.2	2
2.2 How often do you use Line app?	daily	292	-	95
	1-6/week	12	-	4
	1-3/month	2	-	1
2.3 Duration of LINE usage	morning	97	31.7	15
	alert	159	52.0	25
	free time	196	64.1	30
	working/studying	78	25.5	12
	at night	115	37.6	18
2.4 What are the objectives do you use LINE?	family	304	99.3	45
	new friends	6	2.0	1
	business	138	45.1	20
	games	36	11.8	5
	update news	89	29.1	13
	Timeline	102	33.3	15
	Other	3	1.0	1
2.5 How many friends do you have on LINE?	< 50	45	-	15
	50 – 100	82	-	27
	101 – 150	62	-	20
	151 – 200	42	-	14
	> 200	75	-	24

* Percentage is in each answer. (Multiple choice), ** Percentage is all answer in one question.

4.1.4 Factors influencing use and adoption of LINE Official Accounts

First question of the forth part questionnaire separated respondents that have LINE OAs and didn't have LINE OAs. The finding is 80.1% of respondents (245) have LINE OAs and 19.9% (61) didn't have, so 19.9% of them can skip the forth part questionnaire to fifth part.

Table 3. Motivation and Attitude toward the use of LINE. (N = 306)

Motivation	Questions	Answer	Frequency	%*	%**
Entertainment	LINE is fun to use.	Yes	287	93.8	90
	LINE is entertaining.	Yes	268	87.6	
	Using LINE is pleasing.	Yes	276	90.2	
Sociality	I can meet new friends through LINE.	Yes	111	36.3	74
	I can find old friends through LINE.	Yes	262	85.6	
	I can keep in touch with my friends through LINE.	Yes	305	99.7	
Information	LINE is a convenient source of information.	Yes	257	84.0	72
	LINE is a good source of information.	Yes	172	56.2	
	LINE provides timely information.	Yes	235	76.8	

Attitude	Questions	Answer	Frequency	%	
	I feel comfortable in using LINE.	Yes	273	89.2	94
	I like using LINE to communicate with my friends.	Yes	291	95.1	
	I have positive attitude toward LINE.	Yes	301	98.4	

* Percentage is in each questions, ** Percentage is each type of motivation and attitude.

The forth part were design to analyse the percentage of each factors on adopting LINE OAs. 84.9% of respondents add LINE OAs because the accounts offer free stickers and 45.3% of them add because their friends send them those free stickers and they want too. Free stickers are not only influence on adopting LINE OAs, but also influent on LINE users include making users know some brands 62.4% and recognize some brands 53.9%. But only 24.5% be new customers and 23.7% be loyal customers.

After add LINE OAs as friends, the survey found that 85.7% of LINE users have blocked LINE OAs (24.3% of them block all accounts and 65% of them block some accounts). 74.3% of LINE users feel its bother because accounts sent them too many messages and 44.1% of them just want free stickers. However a minority of LINE users indicated the reasons that they didn't block some accounts because they are interested in Brand 43.7%, they are the accounts customers 40.4% and they didn't bother the accounts 29.4%. When the LINE users were asked whether LINE didn't provide 'Block' function, would you download their free sticker?, the majority answer are not sure (50.2%), 27.8% of LINE users answer they still download but 22.0% of them don't download.

Although 'Block' function make accounts cannot send LINE users their messages, but 90.6% of LINE users feel firms aren't intrusive of LINE users privacies and 78.4% of them feel free and have positive attitude with brands.

Although messages are the main point of creating LINE OAs, but there are only 51% of LINE users add LINE OAs as friends even they didn't offer free stickers which mean LINE users are willing to receive the information from accounts. From the finding, there are 91% of LINE users have some official account to receive messages and 89.7 % of them have read some messages. Not many of LINE user join in companies' activities, delete messages and share to friends with 19.3%, 18.4% and 8.5% respectively. By the way, if compare the effect of free stickers and messages on LINE users, the finding shows that messages make more LINE users know some brands, recognize some brands, be new customers and be loyal customers than free stickers with 77.1%, 69.5%, 30.0% and 29.1% respectively. Moreover LINE users can follow companies' update news by receiving their messages by 66.4%.
4.1.5 Operation development of LINE Official Accounts

In the final part of the survey, respondents were asked their preference about LINE OAs. Since free stickers were created to attract LINE users, the top three of most preference stickers are clear emotion/ animation stickers 84.6%, up-to-date and sticker with text which had same percentage 51.3% and stickers for special festival 50.3% respectively. For the content of messages that LINE users prefer to receive are promotion 66% and tips 54.2%. Most of them prefer to receive short messages 78.1% and picture messages 54.2%. 55 % of LINE users think the number of messages that it is enough per account per day is only one message. Moreover the period time that LINE users have a chance to read accounts' messages is at night 50.7%. All result was shown in Table 5.

4.2 Inference Statistics - Chi-Square (P-Value)

4.2.1 Gender, Age and Duration of LINE Usage

As Table 6 shows, there is a significant difference between gender and duration of LINE usage which consider significant at the $p < 0.05$ level. 75.90% of male use LINE when they have free time ($p = 0.007$). While another duration, gender is no significant difference.

Moreover there is a significant difference ($p < 0.05$) between the age and duration of LINE usage. 61.7% of age 15 – 16 use LINE when it's alert. ($p = 0.001$) and 82.1% of age 45 -60 use LINE when they have free time ($p = 0.002$). From this finding, firms can know duration of their customer duration LINE usage. If most of their customers are age between 15 – 24 years old, they should be careful sending too many messages in anytime otherwise their customers will be annoy and finally block LINE OAs although LINE provide 'Turn off alert' function already.

Table 4. Factors influencing use and adoption of LINE Official Accounts (N = 306)

Official account	*Questions*	*Answer*	*Frequency*	*%*
	I Have LINE official accounts as friends	Yes	245	80.1
		No	61	19.9

Factors (N = 245)

1. Free stickers	*Answer*		*Frequency*	*%*
1.1 Influence on adding friends	Official accounts offer free stickers.		208	84.9
	Official account didn't offer free sticker.		125	51.0
	Friends send me stickers and I want to have too.		111	45.3
1.2 Influence on LINE users	I know some Brand because of their free stickers.		153	62.4
	I recognize some Brand because of their free stickers.		132	53.9
	I become a new customer of some Brand because of their free stickers.		60	24.5
	I become a loyal customer of some Brand because of their free stickers.		58	23.7

2. Block function		Answer	Frequency	%
2.1 After you add Official Accounts as friends because of their free stickers, have you ever block them?		block	210	85.7
		- block some	- 159	- 75.7
		- block all	- 51	- 24.3
		never block	35	14.3
2.2 The reasons of why did you block them?		just want sticker	108	44.1
		too many message	182	74.3
2.3 The reasons of why did you block them?		I'm their customer.	99	40.4
		I'm interested in Brands.	107	43.7
		I didn't bother them.	72	29.4
2.4 Influence on add friends If LINE didn't provide 'block' function, would you download their free sticker?		download	68	27.8
		no download	54	22.0
		not sure	123	50.2
2.3 Influence on LINE users Block' function makes me feel free and have positive attitude with brands.			192	78.4

'Block' function make me feel firms aren't intrusive of my privacy.	222	90.6

3. Messages	Answer	Frequency	%
3.1 I have Official accounts to receive messages.	Yes	223	91.0
(Including case it's bother and then block all)	No	22	9.0
(N =223)			
3.2 LINE users' response to message	I read some message	200	89.7
	I delete message	41	18.4
	I join their activities	43	19.3
	I share to friends	19	8.5
3.2 Influence on LINE users			
- I know some Brand because receive their messages.		172	77.1
- I recognize some Brand because receive their messages.		155	69.5
- I become a new customer of some Brand because receive their messages.		67	30.0
- I become a loyal customer of some Brand because receive their messages.		65	29.1
- I can follow update news of some Brand because receive their messages.		148	66.4

Table 5. Operation development of LINE Official Account (N = 306)

Questions	Answer	Frequency	%*	%**
4.1 Which sticker do you prefer?	celeb	55	18.0	6
	brand character	61	19.9	6
	famous cartoon	148	48.4	15
	normal/slang text	157	51.3	16
	clear emotion, animation	259	84.6	26
	special festival	154	50.3	15
	up-to-date	157	51.3	16
4.2 Which kinds of information do you prefer?	theirs news	138	45.1	20
	theirs promotion	202	66.0	30
	inspiration message	106	34.6	16
	tips	166	54.2	24
	on air activity	70	22.9	10
4.3 Which kinds of message do you prefer?	short message	239	78.1	45
	long message	18	5.9	3
	video message	27	8.8	5
	picture message	166	54.2	31
	link message	84	27.5	16
4.4 How many messages do you think it is enough per account per day?	only one	169	-	55
	1 - 3	76	-	25
	no limit	61	-	20
4.5 Which period time do you have a chance to read messages from accounts?	morning	59	19.3	14
	break time	83	27.1	20
	evening	116	37.9	28
	night	155	50.7	38

* Percentage is in each answer (Multiple choice), ** Percentage is all answer in one question.

Table 6. Chi-square (P-value) of Gender, Age and Duration of LINE usage.

during time		Gender		P value	Age				P value
		male	female		15-24	25-35	36-45	45-60	
morning	count	28	69	0.909	20	42	9	26	0.373
	%*	32.20%	31.50%		24.7%	36.2%	29%	33.3%	
alert	count	42	117	0.416	50	69	13	27	0.001
	%*	48.30%	53.40%		61.7%	59.5%	41.9%	34.6%	
free time	count	66	130	0.007	45	69	18	64	0.002
	%*	75.90%	59.4%		55.6%	59.5%	58.1%	82.1%	
working	count	26	52	0.266	17	34	9	18	0.532
	%*	29.90%	23.7%		21%	29.3%	29%	23.1%	
at night	count	37	78	0.26	25	41	10	39	0.063
	%*	42.50%	35.6%		30.9%	35.3%	32.3%	50	
total		87	219		81	116	31	78	

* Percentage is in each answer (Multiple choice).

5. Conclusion

The objectives of this research was to gain a deeper understanding of LINE users' behavior and factors influencing use and adoption of LINE OAs which is the one of mobile marketing communication and thus suggest firms to achieve using LINE OAs as a mobile marketing approaches.

LINE is a platform that has as a main purpose to keep in touch with friends and family. Accordingly, most of LINE users have not more than 200 friends on LINE. The main reason using LINE is not because it's free download or their sticker, most of LINE users in Thailand use LINE because LINE is easy and prevalent. Moreover the frequency of LINE usage in Thailand is daily. And after LINE offered LINE OAs, many firms in Thailand join with LINE to create their accounts. They use LINE OAs as a mobile marketing communication by sending messages directly to LINE users. To attract LINE users add them as friends, Firms offer free stickers and the finding also shows that many LINE users add them because of free stickers. 'Block' function and message are not the important determinants of adding LINE OAs as friends. But 'Block' function is the main function that minimize intrusive of users' privacy and maximize LINE users have positive attitude with firms. The effect of receiving LINE OAs' messages, over half of LINE users know some brands, recognize some brands and can follow accounts' news. Nevertheless minority are the new customers and loyal customers of some brands from receiving LINE OAs messages.

So firms should understand their customers' LINE usage behavior to improve their LINE OAs' operation such as offer clear emotion/ animation stickers, send promotion of their products/service, discounts or special gift as content of messages in form of short message or picture message. Additionally, don't send too many messages to LINE users, because the main reason that LINE users block LINE OAs is LINE users feel annoyed, even LINE users can turn off alert. Over half of them prefer to receive only one message per account per day. Moreover at night is the suitable for send LINE users messages because most of them answered that they had a chance to read message at night beside they may not be annoy.

References

Chang, Y. P., & Zhu, D. H. (2011). Understanding social networking sites adoption in China: A comparison of pre-adoption and post-adoption. *Computers in Human Behavior*, *27*(5), 1840–1848. doi:10.1016/j.chb.2011.04.006

Corporation LINE. (2014). LINE Surpasses 400 Million Registered Users. Retrieved from http://linecorp.com/en/pr/news/en/2014/714

FERNQUEST, J. (2014). Line chat's rising popularity. Retrieved April 24, 2015, from http://www.bangkokpost.com/learning/learning-from-news/423004/line-chat-rising-popularity

Kim, Y., Sohn, D., & Choi, S. M. (2011). Cultural difference in motivations for using social network sites: A comparative study of American and Korean college students. *Computers in Human Behavior*, *27*(1), 365–372. doi:10.1016/j.chb.2010.08.015

Leeflang, P. S. H., Verhoef, P. C., Dahlström, P., & Freundt, T. (2014). Challenges and solutions for marketing in a digital era. *European Management Journal*, *32*(1), 1–12. doi:10.1016/j.emj.2013.12.001

Lien, C. H., & Cao, Y. (2014). Examining WeChat users' motivations, trust, attitudes, and positive word-of-mouth: Evidence from China. *Computers in Human Behavior*, *41*(2014), 104–111. doi:10.1016/j.chb.2014.08.013

LINE Corporation Global News. (2013). Users Exceed 150 Million Worldwide. Retrieved April 23, 2015, from http://linecorp.com/en/press/2013/0501590

LINE Official Blog. (2012a). Free Voice Calls for the PC version of LINE! Retrieved April 23, 2015, from http://official-blog.line.me/en/archives/20811788.html

LINE Official Blog. (2012b). LINE for Windows Phones! Enjoy the unique user interface with LINE! Retrieved April 23, 2015, from http://official-blog.line.me/en/archives/18175630.html

LINE Official Blog. (2012c). LINE is Now Available for BlackBerry! Retrieved April 23, 2015, from http://official-blog.line.me/en/archives/2012-08.html

LINE Official Blog. (2013). LINE for Nokia "Asha" Device Scheduled to be released in March 2013! Retrieved April 23, 2015, from http://official-blog.line.me/en/archives/24924144.html

Nevid, J. S. (2013). *Psychology: Concepts and applications*. (C. L. Wadsworth, Ed.) (Fourth.). Belmont, CA: Jon-David Hague.

NHN Japan Corporation. (2012). Introduction of "LINE Official Accounts" for Businesses Enterprises. Retrieved from https://linecorp.com/press/files/PRESS_20120618194132.pdf

Saito, M. (2012). Born from Japan disasters, Line app sets sights on U.S., China. Retrieved April 23, 2015, from http://www.reuters.com/article/2012/08/16/japan-app-line-idUSL2E8JD0PZ20120816

Statista. (2015a). Number of monthly active LINE users worldwide as of January 2015 (in millions). Retrieved April 24, 2015, from http://www.statista.com/statistics/327292/number-of-monthly-active-line-app-users/

Statista. (2015b). Number of registered LINE app users in selected countries as of October 2014 (in millions). Retrieved April 22, 2015, from http://www.statista.com/statistics/250927/number-of-registered-line-app-users-in-selected-countries/

Watson, C., McCarthy, J., & Rowley, J. (2013). Consumer attitudes towards mobile marketing in the smart phone era. *International Journal of Information Management*, *33*(5), 840–849. doi:10.1016/j.ijinfomgt.2013.06.004
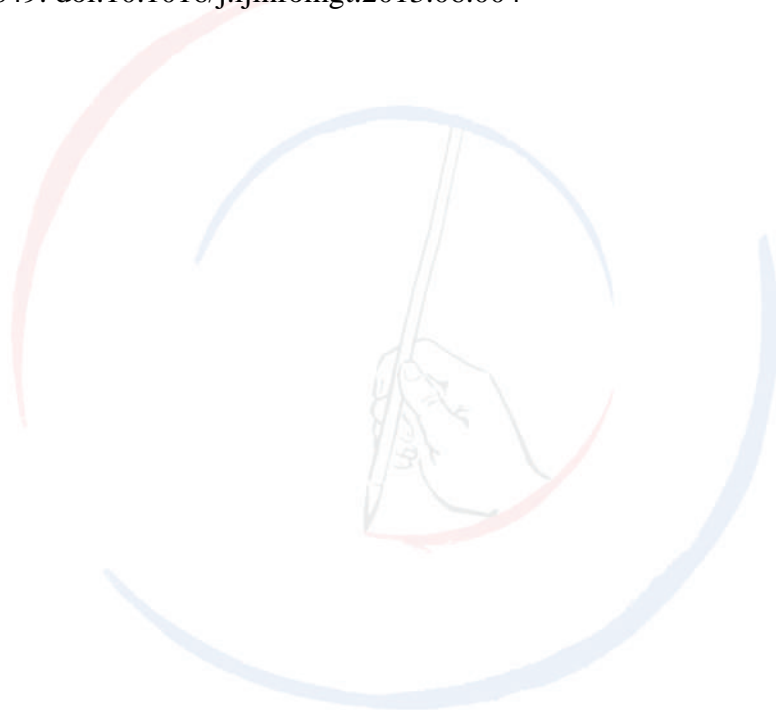
The Influences of Social Support and Social Skills on the Cross-Cultural Adjustment of Foreign Care Workers in Japan

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Abstract

Purpose: The purpose of this study was to assess the effects of social support on the cross-cultural adjustment of foreign care workers in Japan. Foreign care workers are immigrating to Japan from other Asian countries in response to the opening provided by economic partnership agreements between Japan and its Asian partners. However, the quality of care that they provide is degraded by a lack of cultural understanding, which may relate to low social support and poor social skills.

Methods: The study employed a sample of Indonesian and Filipino foreign care workers who entered Japan via these agreements and were working at medical or elder care facilities ($n = 106$). Survey data were used and data on (1) social support, (2) social skills, and (3) cross-cultural adjustment were analyzed using factor analytical techniques and analysis of covariance.

Results: Social support positively related to psychological and sociocultural adjustments in two dimensions: support from other foreigners and support from Japanese people. Social support was directly related and indirectly related through social skills to aspects of cross-cultural adjustment.

Conclusion: Social support promotes adjustment that, in turn, may facilitate the quality of care provided by foreign care workers. Social skills facilitate cross-cultural adjustment directly and, in addition, enhance the positive effects of social support on adjustment.

Keywords: Foreign care workers, cross-cultural adjustment, social support, social skills

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Introduction

The shortage of Japanese nurses and care workers is a serious problem for the increasingly aging Japanese population. In 2008, the Economic Partnership Agreement (EPA) was signed by Japan, Indonesia, and the Philippines, allowing foreign care workers to enter Japan. By 2013, there were 1,048 Indonesian and 821 Filipino foreign care workers in Japan through the EPA (Japanese Ministry of Health, Labour and Welfare, 2014). In addition, an EPA with Vietnam was signed and 21 nurses and 117 care workers came to Japan from Vietnam in 2014 (*ibid.*), with greater numbers expected in the future.

Since the introduction of foreign care workers for the medical and physical care of the elderly, problems among foreign care workers, Japanese staff, and care recipients have been reported because foreign care workers lack an appropriate model and demand for their services has been unexpectedly high (Hirano, Ogawa, Kawaguchi, & Ohno, 2010). Setyowati, Susanti, Yetti, Hirano, and Kawaguchi (2010) found that foreign care workers experience work stress and sociocultural difficulties, including a sense of isolation while living in Japan, difficulties understanding nursing records and communicating with elderly persons, and uneasy feelings about the national examination. Inoue (2007) suggested that foreign care workers face difficulties stemming from their cultural differences and that a coordinator should be available to help them with cultural misunderstandings. He pointed out that, "Support from the surroundings would help the understanding and adaptation of foreign care workers, and encourage them to grow as professional care workers" (p. 43). Therefore, promoting interaction between foreign care workers and Japanese staff seems imperative to the former's cross-cultural adjustment and would contribute to their growth as care workers in Japan.

Foreign care workers bring high levels of care knowledge to Japan that they obtained in their countries of origin (Tsukada, 2010). However, in their new surroundings, their co-workers and patients are Japanese, which means that when they are providing care, problems may arise in a number of areas because of cultural differences. These problems include aspects of communication, understanding of job responsibilities, general workplace culture (such as work hours and appropriate interaction with colleagues), selection of care methods, and basic cultural differences between Japan and the countries of origin. Consequently, adjustment of the work environment to promote interaction among foreign care workers, Japanese staff, and care recipients has become very important. Moreover, improved cross-cultural adjustment of foreign care workers may influence their professional growth and improve the quality of care that they provide. However, although there are studies on the cross-cultural adjustment of international students, studies of foreign care workers in Japan have not focused on their adjustment.

Hatanaka and Tanaka (2014) proposed a three-dimensional structural model of adjustment of foreign care workers in Japan: psychological, sociocultural, and self-realization. Their results suggested that affinity relations in sociocultural adjustment (i.e., their cultural practices or building relationships with the Japanese) are important to their cross-cultural adjustment, particularly with respect to improved professional development.

Previous studies have found that learning skills, culture, and social support are necessary for cross-cultural adaptation to the host society (Chavajay, 2013; Furnham & Bochner, 1986). Regarding international students in Japan, social support provided by Japanese individuals encouraged them to learn culturally specific social skills and to successfully adjust (Okunishi & Tanaka, 2011). In addition, a social support network in which there is contact with members of the host country leads to higher quality of socio-cultural adaptation (Tanaka, Takai, Koyhama, & Fujihara, 1994; Ward, Bochner, & Furnham, 2001) and more satisfaction with the work (De Jonge & Schaufeli, 1998).

This study examines the effects of social support on the cross-cultural adjustment of foreign care workers in Japan. Previous research suggests that social support has a direct effect and an indirect effect through social skills. It offers suggestions for foreign care workers' improved growth as professionals and how consistent employment could be obtained.

Methods

Participants

The theoretical sample consisted of foreign care workers ($n = 126$) from Indonesia and the Philippines who came to Japan via the EPA and worked at a medical ($n = 32$) or elder care ($n = 72$) facility. Individuals who were in Japan for personal study or through a non-EPA system were not included in this study. In addition, 20 cases were dropped due to missing data. Ultimately, there were 70 Indonesians and 36 Filipinos, of which there were 88 women, 15 men, and 3 of unknown gender, totaling 106 participants. The participants' ages were distributed as follows: 20-29 (55.7%), 30-39 (39.6%), and 40-49 (3.8%). The mean age was 30.6 years ($SD = 4.9$). Most of the participants entered Japan in 2009 (8.1%), 7.5% came in 2010, and 6.6% came to Japan in 2008. About 34.0% of the sample was nurses and about 63.2% was caregivers. The questionnaires were translated into Indonesian, Tagalog, and English for the foreign care workers.

Measures

The participants completed a questionnaire that asked them about social support, social skills, and cross-cultural adjustment. The participants were asked to rate each item on a 5-point Likert scale, where 1 = *not at all* and 5 = *very much*. The item scores were totaled for each point on the scale.

Dependent Variables

Based on the results of previous studies, cross-cultural adjustment was conceptualized as a multi-dimensional concept consisting of three types of adjustment: psychological adjustment, sociocultural adjustment, and self-realization adjustment (Hatanaka & Tanaka, 2014).

Psychological Adjustment

Studies of psychological adjustment have focused on the extent to which emotional or mood disorders occur during a period of cross-cultural adaptation (Ward et al., 2001). The items for the scale used in this study were developed from previous research (Hatanaka, Tanaka, & Mistuyoshi, 2010; Ward et al., 2001) and are intended to measure the state of physical and mental health of foreign care workers in Japan.

The four items are categorized under two factors. The first factor comprised two items under the heading "vitality" ($\alpha = .80$), which includes feeling energetic and peaceful. The second factor comprised two items under the heading "psychological health" ($\alpha = .62$), which included feeling depressed and tired.

Sociocultural Adjustment

Sociocultural adjustment is concerned with cultural learning, adaptation to the host culture, and establishment of relationships with the host (Ward & Kennedy, 1992). The items in the scale used in this study were developed from the Sociocultural Adjustment Scale (Ward & Kennedy, 1999). These items intend to measure foreign care workers' adjustment to the new cultural and work environments in Japan.

It consisted of 13 items of four factors. The first factor compromised three items categorized under "empathetic care" ($\alpha = .76$), which refers to providing care in a manner related to the culture of origin, and offer care that suits the needs of Japanese patients. The second factor compromised four items categorized under "job performance" ($\alpha = .65$), which refers to managing work independently and writing and speaking in medical terms. The third factor compromised three items categorized under "affinity relations" ($\alpha = .66$), which is about creating personal relationships with the Japanese staff and patients and following behavior patterns like Japanese people do. The fourth factor compromised three items categorized under "workplace adaptation" ($\alpha = .60$), which refers to adjusting to the Japanese work environment and following work patterns that the Japanese people follow.

In previous studies, work adjustment was independent of sociocultural and psychological adjustment (Aycan, 1997). In this study, however, work related items that are included in sociocultural adjustment, such as learning culture and developing a relationship with the host, are necessary for providing appropriate care. Therefore, in this study, "job performance" and "workplace adaptation" are considered as work adjustments.

Self-Realization Adjustment Questionnaire

Self-realization refers to the professional or life goals of foreigners in Japan (Hatanaka, *et al*., 2010). Two items under one factor on the scale were used in this study. This factor is called "sense of meaningful life" ($\alpha = .73$), and relates to making life beneficial. These items measure foreign care workers' degree of making efforts to be successful in their work or having a meaningful life in Japan.

Independent Variables

Social Support

Based on previous studies by Tanaka (2000) and Okunishi and Tanaka (2008), the analysis used responses to nine questions about the social support that foreign care workers received from Japanese people and from other foreigners. The items concerned social support regarding: (1) Japanese language, (2) Japanese culture and customs, (3) study, (4) work, (5) counseling and encouragement, (6) going out, (7) goods and money, (8) life information, and (9) job information. The scales measured the extent of the social support that foreign care workers reported receiving in Japan. There were two variables: one measuring the extent of support received from Japanese people, and the other measuring the extent of support received from other foreigners. A factor analysis for the support from Japanese people and from other foreigners was separately conducted.

Social support from Japanese people consisted of two factors. The first factor compromised four items categorized under "work support" ($\alpha = .76$), and included language support, work information, culture and customs, consultation, and encouragement. The second factor comprised three items categorized under "daily life support" ($\alpha = .74$), and included going out, goods and money, and life information. Social support from other foreigners consisted of two factors. The first factor compromised four items categorized under "work and daily life support" ($\alpha = .81$), and included general work information, money, method of work, and life information. The second factor compromised of three items categorized under "cultural support" ($\alpha = .86$), and included language support, study, culture, and customs.

Social Skills

Based on previous research on the social skills of foreign care workers in Japan (Hatanaka, 2014), responses to nine questions about social skills necessary in Japan were created. These skills are (1) discussing cross-cultural conflict, (2) explain cultural differences with Japanese people, (3) courtesy, (4) social relationships with Japanese people, (5) expression of gratitude, (6) active involvement in Japanese society, (7) explanation of the participant's foreign culture, (8) inferred behavior, (9) making appropriate replies. These items intend to measure foreign care workers' degree of interpersonal skill in their relationships with Japanese people.

Statistical Analysis Procedures

The factor analyses were performed using SPSS 21.0. A series of analyses of covariance were performed to test the relationship of social support to the measures of the dimensions of cross-cultural adaptation through social skills using SPSS AMOS 21.0.

Results

Analysis of Covariance

To examine the relationship of social support received by foreign care workers on their cross-cultural adjustment through their social skills, a covariance structural analysis was performed for each of the cross-cultural adjustment.

Figure 1 presents a structural model showing the coefficients of the relationships of dimensions of social support on the vitality dimension of psychological adjustment through social skills. Neither social support nor social skills were statistically significant predictors of the psychological health dimension of psychological adjustment. Work support from Japanese people and work and daily life support from foreigners had significant positive effects on social skills ($\beta = .30$, $p < .01$ and $\beta = .21$, $p < .05$, respectively), which, in turn, had a positive effect on vitality ($\beta = .37$, $p < .001$). Neither variable had a direct effect on vitality. On the other hand, cultural support from foreigners had a direct positive effect on vitality ($\beta = .32$, $p < .001$), but no significant effect on social skills.
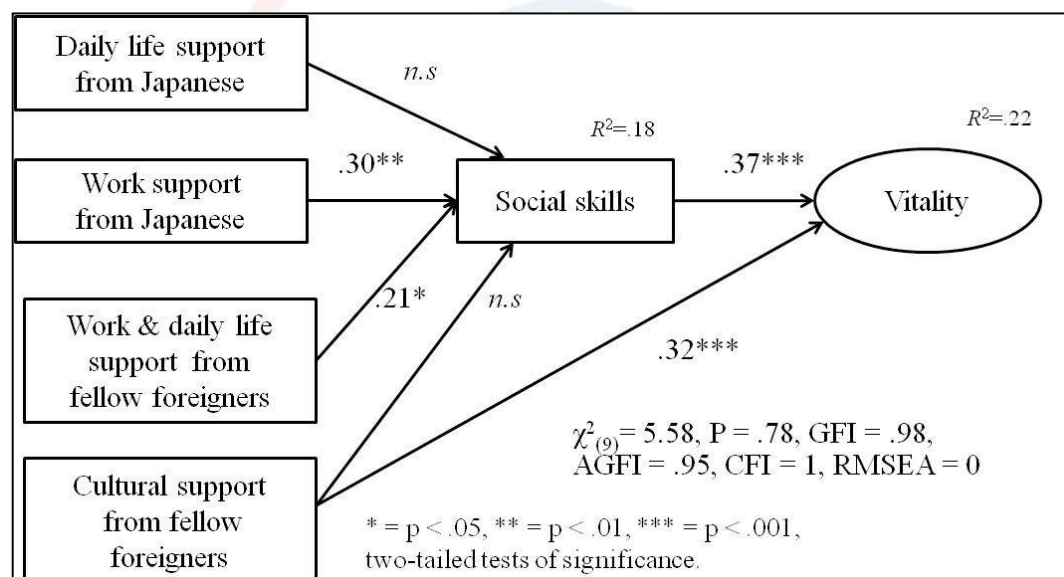
Figure 1. The effects of social support and social skills on cross-cultural adjustment

Figure 2 shows the effects of social support on the four dimensions of sociocultural adjustment via social skills.
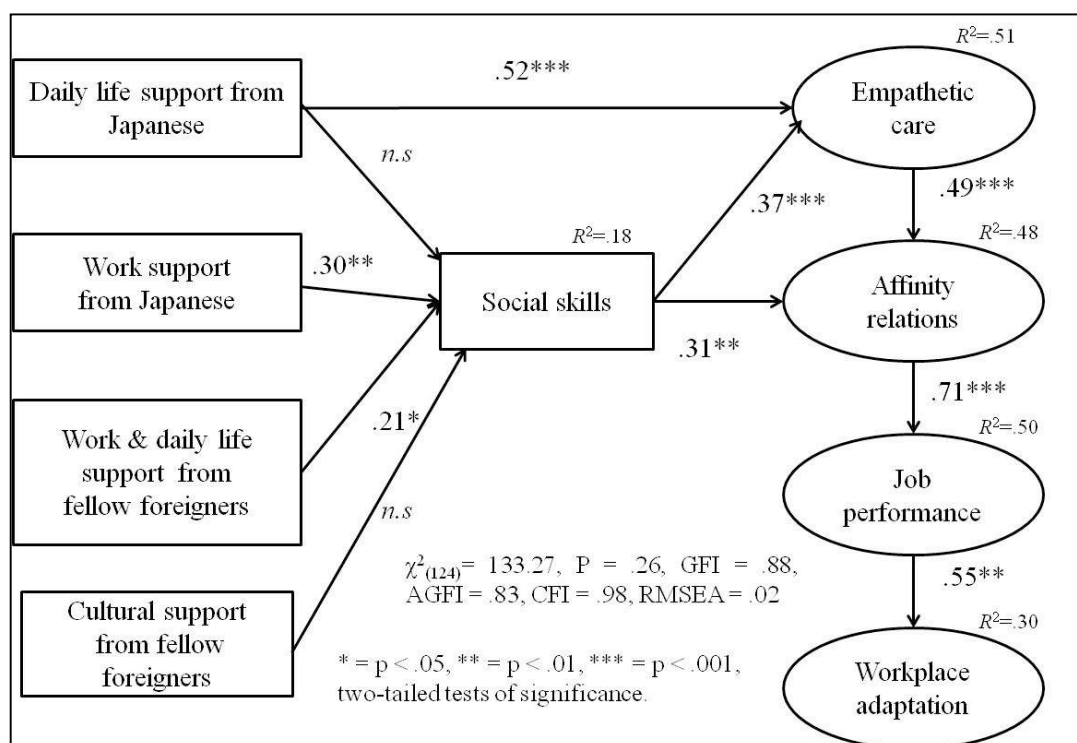
Figure 2. The effects of social support and social skills on sociocultural adjustment

Daily life support from Japanese people directly influenced empathetic care ($\beta = .52$, $p < .001$), but that was its only statistically significant relationship to adjustment and it had no significant effect on social skills. Work support from Japanese people ($\beta = .30$, $p < .01$) and work and daily life support from foreigners ($\beta = .21$, $p < .05$) positively influenced social skills, which, in turn, influenced empathetic care ($\beta = .37$, $p < .001$) and affinity relations ($\beta = .31$, $p < .01$), but there were no statistically significant direct effects on sociocultural adjustment. Cultural support from other foreigners had no significant effect on either social skills or sociocultural adjustment. Empathetic care positively influenced job performance and workplace adaptation, which is considered as work adjustment via affinity relations.

Finally, the relationships of the four factors of social support to self-realization adjustment, measured as a single factor, termed "sense of meaningful life," was tested. The results found no statistically significant relationships. Furthermore, there were no statistically significant relationship between the measures of social support and social skills.

Discussion

This study examined the relationship of social support received by foreign care workers in Japan to their cross-cultural adjustment via their social skills. The results suggest that some dimensions of social support and social skills have positive effects on some aspects of the cross-cultural adjustment of the participants to life in Japan.

In previous studies of adjustment by international students in Japan (Okunishi & Tanaka, 2011), learning interpersonal social skills specific to the Japanese culture was

facilitated by social support, which, in turn related to higher levels of adjustment. In the within study of foreign care workers, work support from Japanese people and work and daily life support from foreigners influenced the extent of the participants' vitality (a dimension of the psychological aspect of cross-cultural adjustment). On the other hand, cultural support from foreigners regarding culture, language, and Japanese customs was important to the participants' vitality and life support from Japanese people was directly important to empathetic care without the mediation of social skills. Unlike international students, foreign health professionals' interpersonal skills are most likely obtained in the workplace. Moreover, empathetic care positively related to work adjustment (workplace adaptation and job performance) via affinity relations based on social support and social skills. This suggests that work adjustment does not precede itself. Acquiring the social skills to make a relationship with Japanese people, which enables foreigners to learn Japanese culture and customs, is necessary. This makes possible the gradual process of sociocultural adjustment to grow as health professionals.

Social support and social skills did not have statistically significant effects on the psychological health dimension of psychological adjustment or on the sense of a meaningful life as the measure of self-realization adjustment. Previous research found that psychological health and a sense of a meaningful life is considered as achievement level of adjustment through sociocultural adjustment (Hatanaka & Tanaka, 2014). This suggests that the effect of social support and social skills is exemplified at the beginning of the adjustment period, when foreigners begin work in Japan.

Conclusion

This study considered social support and social skills factors that influence cross-cultural adjustment of the growing number of foreign care workers in Japan. Social skills that are acquired through social support encourage cross-cultural adjustment. Moreover, professional growth as health care providers can be achieved for foreigners through the skills they gain in their interpersonal relationships with Japanese people. Foreigners cannot easily or quickly obtain social skills without help. Therefore, they should seek to gain social skills specific to the Japanese cultural context in relationships with foreigners and Japanese people. The higher quality of cross-cultural adjustment of foreign care workers can be improved if workplaces provide them with enough support regarding their work and adequate opportunities to relate with Japanese staff and foreigners.

Acknowledgments

References

Aycan, Z. (1997). Expatriate adjustment as a multifaceted phenomenon: individual and organizational level predictors. *The International Journal of Human Resource Management*, *8*(4), 434–456.

Chavajay, P. (2013). Perceived social support among international students at a U.S. university. *Psychological Reports: Sociocultural Issues in Psychology*, *112*(2), 667–677.

De Jonge, J., & Schaufeli, W. B. (1998). Job characteristics and employee well-being: A test of Warr's Vitamin Model in health care workers using structural equation modeling. *Journal of Organizational Behavior*, *19*, 387–407.

Furnham, A., & Bochner, S. (1986). *Culture shock: Psychological reactions to unfamiliar environments*. London, England: Methuen.

Hatanaka, K., Tanaka, T., & Mistuyoshi, J. (2010). Difficulties in cross-cultural adjustment of Indonesian care workers in Japan: Effect of isolated work environment on work adjustment. Unpublished paper presented at the International Conference of 4th Asian Congress of Health Psychology. Taipei, Taiwan.

Hatanaka, K., & Tanaka, T. (2014). Examination of a three-layered structural model for cross-cultural adjustment of foreign care workers in Japan. Under review for psychological report.

Hatanaka, K. (2014). Cross cultural adjustment of foreign care workers in Japan. (Unpublished doctoral dissertation). Okayama University, Japan.

Hirano, Y. O, Ogawa, R., Kawaguchi, Y., & Ohno, S. (2010). A follow-up survey on hospitals and long-term care facilities accepting the first batch of Indonesian nurse/certified care worker candidates (2): An analysis of various factors related to evaluation of the candidates and Economic Partnership Agreement scheme. *Bulletin of Kyushu University Asia Center, 5*, 99–111.

Inoue, M. (2007). A study on tasks Japanese medical field face in accepting foreign nurses: A case study of Vietnamese nurses. *Multicultural Relations, 4*, 33–45.

Japanese Ministry of Health, Labour and Welfare. (2014). *Keizai renkei kyotei ni motozuku ukeire no wakugumi* [Framework of nurses and caregiver candidates]. Retrieved from http://www.mhlw.go.jp/file/06-Seisakujouhou-11650000-Shokugyouanteikyokuhakenyukiroudoutaisakubu/epa_gaiyou.pdf

Okunishi, Y., & Tanaka, T. (2008). *Nihonjin hosuto gakusei niyoru bunkateki sapoto* [Cultural support by Japanese host students: In search of the supportive roles for international students' cross-cultural adaptation]. *Multicultural Relations*, *5*, 1–16.

Okunishi, Y., & Tanaka, T. (2011). Social skills and cross-cultural adaptation of international students in Japan. Individual, In P. Singh, P. Bain, C-H. Leong, G. Misra, & Y. Ohtsubo (Eds.). *Progress in Asian Psychology Series (8) Group and Cultural Processes in Changing Societies* (pp. 76–92). Delhi, India: Macmillan.

Tanaka, T., Takai, J., Kohyama, T., & Fujihara, T. (1994). Adjustment patterns of international students in Japan. *International Journal of Intercultural Relations*, *18*(1), 55–75.

Tanaka, T. (2000). *Ryugakusei no social network to social skills.* [*Social network and social skills in international students in Japan*]. Kyoto, Japan: Nakanishiya Shuppan.

Tsukada, N. (2010). *Kaigo genba no gaikokujin roudousya: Nihon no keagenba wa dou kawarunoka* [*Foreign workers in the care field: How has the care field in Japan changed?*] Tokyo, Japan: Akashi Books.

Setyowati, Susanti, H., Yetti, K., Hirano, Y. O., & Kawaguchi, Y. (2010). The experiences of Indonesian nurses in Japan who face job and cultural stress in their work: A qualitative study. *Bulletin of Kyushu University Asia Center, 5*, 175–181.

Ward, C., Bochner, S., & Furnham, A. (2001). *The psychology of culture shock*. London, England: Routledge.

Ward, C., & Kennedy, A. (1992). Locus of control, mood disturbance, and social difficulty during cross-cultural transitions. *International Journal of Intercultural Relations, 16*(2), 175–194.

Ward, C., & Kennedy, A. (1999). The measurement of sociocultural adaptation. *International Journal of Intercultural Relations*, *23*(4), 659–677.

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Emotional Literacy among School Children

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Abstract

The purpose of this study was to reveal the development of emotional literacy, especially the understanding emotions and expressions of emotions. In particular, we focused on how children express emotions. Subjects were 513 students aged 6-12 years (250 boys, 257 girls) in two elementary schools in Japan. They were shown a questionnaire including three different vignettes depicting the interpersonal contexts in their daily lives that could trigger positive and negative feelings of character. They were asked to predict characters' feelings and how they judged their feelings. The results showed that there was a difference regarding emotional expressions according to the grade. The first-graders tended to use emotional terms like happy, sad, angry, compared to other expression. However, there was not an increase in the numbers of emotional terms in later grade. Instead, older children tended to ask some questions about the contexts and the characters' intentions, and to express the character's requests or desires. These findings highlight and discuss the development of emotional literacy.

Keywords: emotional literacy, emotional expression, development

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Introduction

Emotional literacy is the knowledge of how to express and understand emotions (Steiner, C., & Perry, P, 1971; Watanabe, 2011). To encourage expression and understanding of emotions, studies on emotional terms have been conducted. Naka (2010) examined the emotional expressions used by children from preschools to elementary schools and revealed that terms such as *happy, good,* and *disgust* are used by preschoolers, and expressions of negative emotions are diversified with age. Furthermore, the use of terms referring to behavior and status of others increases with age. However, there are only few developmental studies that examine how children express emotions. The purpose of this study is to examine how children express emotions in interpersonal situations in their daily lives. We collected data from preschoolers and elementary school children, but only data from the elementary school children were analyzed this time.

Method

Participants

513 children who live in Kanto, Japan participated in this study. They were selected from two elementary schools. Among them, the 510 children with complete data were included in the analysis (First-graders: 42 boys, 43 girls; Second-graders: 42 boys, 54 girls; Third-graders: 35 boys, 34 girls; Fourth-graders: 46 boys, 47 girls; Fifth-graders: 38 boys, 42 girls; Sixth-graders: 44 boys, 37 girls; All children: 247 boys, 257 girls, 6 children unknown).

Materials

Three pictures showing interpersonal scenes in daily living (playing with friends, cleaning, and eating a snack) were used (Figure 1). Each picture portrayed two children representing a negative and a positive emotion, respectively. In order to avoid affecting the children's responses by showing an expression, the faces of the target children were not drawn.

Procedure

The data were collected through a questionnaire that was distributed by the teacher in each class. The pictures were shown, and the children were asked, "How does this child feel?" If they gave an answer, they were asked, "Why do you think so?" The same procedure was followed for the other target child in the picture (*Figure 1*).

| Play scene | Clean up scene | Eating snack scene |

Figure 1. The pictures used in this study.

Results

In order to examine the emotional expressions of the child, the collected data were categorized into 4 groups (Table 1).

Table 1
The data categolized into 4 groups

Group	Sample responses
Emotional terms	happy, sad, mad, and disgust
References to behavior or situation	He is alone. She is playing with friends.
Request and desire	I want to eat more snacks. Please let me join you.
Wonder and question	Why should we clean up? Why did he rob me of my snack?

Differences in the Number of Expressions

A 2-way ANOVA of age gender revealed a highly significant main effect of age and gender in all category groups. However, the interaction between age and gender had no significant effect. First, fifth-graders were less likely to use emotion words as compared to the fourth- and sixth-grades (F (5, 492) = 2.86, $p <$ .05; Figure 2). In terms of numbers of expressions about references to behavior or situation and expressions of requests and desires, first-graders used fewer expressions compared to students in the other grades (F (5, 492) =4.94, $p <$ .001; F (5, 492) =7.98, $p <$ .001; Figure 3 and 4). In numbers of expressions for wonder and question, fifth-graders were less likely to use these expressions compared to students in other grades, and fourth-graders more use these expressions than first graders (F (5, 492) = 8.61, $p <$ .001; Figure 4). These results showed that the variety of emotional expression spread with age. On the other hand, we revealed that references to emotion do not necessarily increase with age. In all categories, girls talked about more emotions than boys did (Emotional terms: F (1, 492) = 4.94, $p <$ .05; References to behavior or situation: F (1, 492) = 9.95, $p <$ .01; Request and desire: F (1, 492) = 10.73, $p <$ .01; Wonder and question: F (1, 492) = 3.14, $p <$ .10).
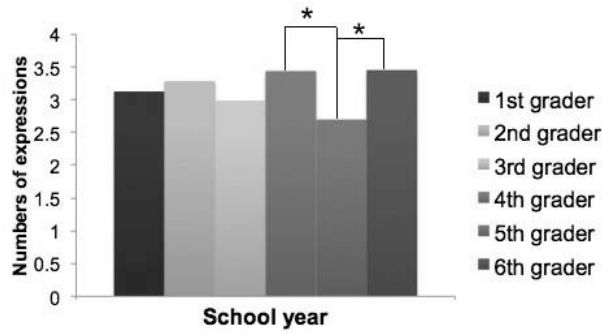
Figure 2. Numbers of expressions about emotional terms
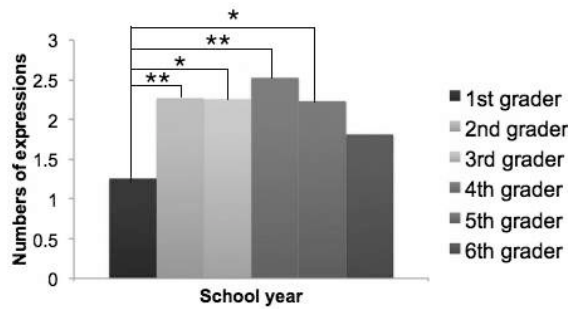
Figure 3. Numbers of expressions about references to behavior or scene
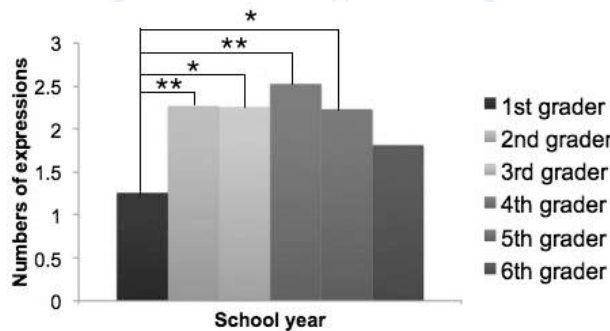
Figure 4. Numbers of expressions about requests and desires
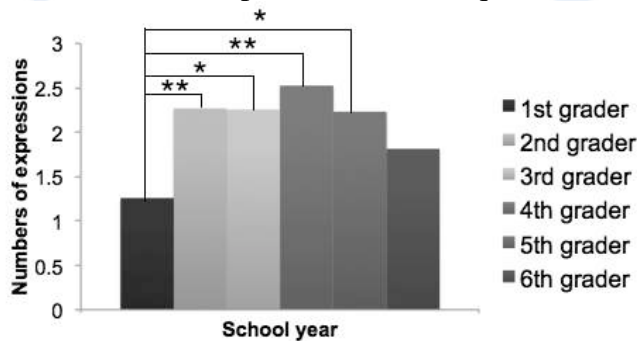
Figure 5. Numbers of expressions about wonder and question

Differences in the Number of Children Who Used Each Expression by Emotional Context.

A chi-square test was conducted to examine whether there was a difference in the number of children using emotional expressions between gender and age.

The results showed that the first graders used more emotional terms significantly in the negative situations ($\chi^2 = 15.20$, *df* = 5, *p* < .01), but they used significantly fewer emotional terms in the positive situations ($\chi^2 = 11.39$, *df* = 5, *p* < .05). The third and sixth graders expressed requests and desires significantly more in the negative situations, but the first graders did so significantly less often in the negative situations ($\chi^2 = 43.83$, *df* = 5, *p* < .001).

Conclusion

The findings showed that the number of references to behaviors or situation, requests or desires increased with age. However, their use of emotional terms did not increase. The younger children tended to frequently use limited emotional terms such as *happy, sad, angry,* and *surprised*. However, the sixth graders used more various expressions and with greater frequency.

Although when the first graders perceived negative emotions they could express them using emotional terms, it seemed difficult for them to make requests or demands of others. This suggested that if they could receive help from people around them in using emotional terms, it might be unnecessary to make a request or demand because adults especially will help children without their saying anything. We should investigate the development of emotional literacy in other contexts in the future.
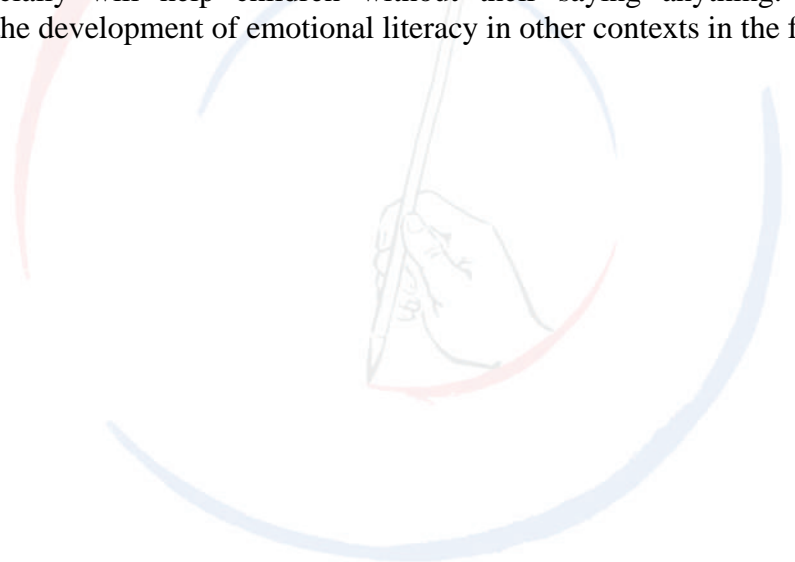
References

Makiko Naka. (2010). Children's Descriptions of Positive and Negative Feelings: Use of Emotional Words under Safe and Unsafe Conditions. *The Japanese journal of developmental psychology*, *21*, 365-374.

Steiner, C., Perry, P. (1997). Achieving Emotional Literacy. London: Bloomsbury.
Yayoi Watanabe (2011). 子どもの感情表現ワークブック　明石書店

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L1 Metalinguistic Ability and Foreign Language Learning:
The Case of Japanese Secondary School Students

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Abstract

This study had two aims: (1) to investigate the relationships among individual difference variables in foreign language learning (FLL), with a focus on L1 metalinguistic ability (MA), and (2) to consider the effect of explicit instruction providing metalinguistic knowledge on foreign language performance of young students. The participants were 48 Japanese students who were 13 or 14 years old and had been learning English for 1.5 years. They attended two classes; one was designed to explicitly teach the concept of word class (e.g. noun, adverb) and the other to deal with grammatical relations (i.e., subject, object, and modification). Each class lasted about 80 min on two separate days. Before the classes, they answered a questionnaire that used a 5-point scale to evaluate their motivation (i.e. motives and self-efficacy) and learning strategies. Also, they took pretest and posttest to evaluate their MA and English performance. We conducted multiple regression analysis by taking English performance as the objective variable and selecting exploratory variables among ones that were significantly correlated to English performance. The result revealed that MA and self-efficacy significantly predicted English performance. With regard to MA, there was no significant difference between pretest and posttest. However, English posttest score was significantly higher than English pretest score. The finding suggests that MA has a significant influence on FLL independently of strategy-use and motivation. Meta-syntactic concept seems to be too abstract for young students but this study shows that explicitly teaching metalinguistic knowledge is effective for them to improve their foreign language performance.

Keywords: Metalinguistic ability, Foreign language learning, Motivation, Learning strategies, Japanese students

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Introduction

Abilities to be aware of language structures and functions have been recognized as a significant factor predicting success in foreign language learning (FLL) or second language acquisition (SLA)[1]. As pointed by Kusube (1986), poor learners of English who are native speakers of Japanese tend to be weak in recognizing modification relations and to be insensitive to the functions of words in sentences. When learning a new word, phrase or sentence pattern, typically they simply memorize it without understanding its structure or function. Besides, they are apt to have difficulties in reading or writing complex sentences such as ones including a relative clause. As Schmidt (1990) has stated, subliminal language learning is impossible and noticing is necessary for sufficient condition for converting input to intake. Rutherford and Sharwood-Smith (1985) have referred to the fact that consciousness-raising, making learners pay attention to formal properties of language, fosters their learning process.

Considering their works, it appears that these last few decades have seen a renewal of interest in the role of metalingiuistic ability in FLL or SLA. Metalinguistic ability can generally be defined as "the ability to think about and reflect upon the nature and functions of language" (Pratt & Grieve, 1984, p. 2). To be more precise, Pratt and Grieve (1984) give the definition to the term "metalinguictic awareness". Some researchers also define "metalinguistic awarenesss" as some kind of "ability" (e.g., Cazden, 1974; Tunmer & Herriman, 1984). Which term (metalinguistic awareness or metalinguistic ability) is adopted seems to depend on researchers. In the present study, we restrict these two terms to their different respective uses.

We adopt the term "metalinguistic ability" as the ability to monitor and control one's linguistic comprehension and production by referring to his or her linguistic knowledge (in the sense of competence), and to represent clearly the process or outcome of monitoring and controlling such linguistic comprehension and production. The knowledge should be explicit so that it can be accessed. To put it the other way around, if it remains implicit or tacit, one cannot access it. On the contrary, it does not need to be explicit when one is just aware of it. In this sense, the term "metalinguistic awareness" is used in this study. To put it more concretely, "metalinguistic awareness" covers just monitoring or reflections on one's linguistic behaviours, including relatively unsophisticated control in some cases.

There are some previous works examining the relationships between L1 metalinguistic ability and FLL. Lasagabaster (2001) performed one of the most remarkable studies. His study targeted bilingual students learning English as the third language, and showed that L1 metalinguistic ability had significant positive correlation with English proficiency (speaking, listening, reading, grammar, and

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[1] We sometimes come across studies in which no clear distinction between "second language (L2)" and "foreign language" is mentioned. However, there is a need to give a clear distinction between the two words in order to make our arguments explicit. In the current study, the term "L2" refers to the target language to be acquired in the situation where it is commonly spoken or given the status of an official status. On the other hand, the term "foreign language" can be defined as the target language to be studied in the situation where it is not used in everyday life, and it is learned as a school subject or a business tool in many cases.

writing). The works of Nagai (2012) and Fujita (2013) should also be considered. Nagai (2012) experimented on monolingual Japanese students, which demonstrated that metalinguistic ability more strongly predicted foreign language proficiency than IQ. Fujita (2013) conducted a longitudinal research on early stage learners, and then she verified that metalinguistic ability was a causal factor of foreign language proficiency.

Of course, there are several studies that shed light on the close relation between L2 metalinguistic knowledge and L2 proficiency (Alderson, Clapham, & Steel, 1997; Roehr, 2008). Still, I would like to focus on metalinguistic ability of mother tongue rather than that of a foreign language since every language user has intuition to his or her mother tongue and the intuition can be easily connected to language awareness.

As we saw above, more and more researchers working on language learning have been interested in metalinguistic ability. However, as pointed by Igarashi (2014), motivation and learning strategies have been traditionally verified as important factors in the field of FLL. Similarly, Skehan (1991) presents a model of influences on language learning, in which learner strategies have an intermediate position between motivation and outcome. If so, can we really say metalinguistic ability plays a distinctive role from these relevant variables? Anyway, when learners don't have very high metalinguistic ability, language teachers may well have to provide learners with metalinguistic knowledge to supplement their ability. However, do such lectures really help learners to effectively study the target language? Strangely, research on metalinguistic ability often fails to grasp the relationship between metalinguistic instruction and foreign language performance.

Purposes

Now, the questions we have to ask here are

Q1: How important a role does MA play in FLL, compared to other factors such as motivation and learning strategies?
Q2: Does metalinguistic instruction for learners enhance their foreign language performance?

Given these questions, the purposes of this study are as follows:
(1) To investigate the relationships among factors in FLL with a focus on L1 metalinguistic ability
(2) To consider the effect of explicit instruction providing metalinguistic knowledge on foreign language performance

Experiment[2]

Firstly, participants answered a questionnaire and took the pretests of metalinguistic ability and English. Then, they attended two different classes. Each class lasted about 80 min on two separate days. Finally, they took posttests of metalinguistic ability and English.

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[2] SPSS 22 was used as the statistical tools.

Participants

A total of 60 Japanese students from one national and several public junior high schools participated in the present study, ranging in age from 13 to 14 years. Sixty people were too many for one class, so that they were divided into two groups. Each group consisted of 30 students respectively. Among the participants, twelve students (six from each group) reported to the researcher that they had lived overseas or did not take every class. Hence, the data of 48 samples (23 females and 25 males) were available to analyze.

Materials and Procedures

Motivation and Learning Strategies

Participants completed a 5-point Likert scale questionnaire consisting of self-evaluation items aimed at examining their motives, self-efficacy and learning strategies for learning English. Motivation has traditionally been regarded to be composed of two variables: *expectancy* and *value* (Atkinson, 1957). Expectancy may be restated into *self-efficacy*, which "refers to an individual's judgment of his or her ability to perform a specific action" (Dörnyei, 1994, p.277). On the other hand, value may be equivalent to be *motives*, which refer to an individual judgment of how important and meaningful a specific action is for him or her. In this experiment, we adopted these two variables as motivational factors: self-efficacy and motives.

As for self-efficacy, we used a scale that was adopted by Mori (2004) and Igarashi (2014), and it originated from the work of Pintrich and de Groot (1990). Pintrich and de Groot (1990) showed the internal consistency of the scale was sufficiently high ($\alpha = .93$). Igarashi (2014) also indicated its reliability ($\alpha = .93$) in her study. Regarding motives, we adopted a revised version of the scale developed by Igarashi (2014). The scale has been especially inspired by *Two-Axes Model* (Ichikawa, 1995). In his model, learning motives are divided into six categories: *fulfillment, training, utility, relation, self-esteem, and reward*.

In spite of a slight difference, the present scale agrees with his model. *Linguistic interest* in the present scale can be regarded as equivalent to *fulfillment,* which has been defined as a typical intrinsic motive derived from curiosity, that's, enjoying learning "itself". Linguistic interest is a motive specific to language learning. This interest is straightforwardly directed toward the object of learning (i.e., English language "itself"), not the further goals which can be achieved through the medium of English. *Utility value* is, of course, accorded with *utility* in the preceding model.

Here, it should be pointed out that the extrinsic motives such as studying English in order to pass the entrance examination of university are not included in utility value. Some items that are grouped into this factor describe motives related to clear visions of English using situation. Others describe interest in cultural - social aspects of English. *Relation* and *self-esteem* in the Two-Axes Model are grouped into one identical factor in the present scale. Both are derived from consciousness about "other people", therefore, this grouping makes sense. All of these five subscales showed sufficiently high coefficients of Cronbach's alpha ($\alpha = .68 \sim .86$).

The data of learning strategies were gathered via the scale developed in reference to Strategy Inventory for Language Learning (SILL) by Oxford (1990). Our scale examining strategy-use consisted of 19 items. The scale consists of four factors: *metacognition, metalinguistics, problem-solving, and performance* (α = .61 ~ .83). *Metacognitive strategies* can be defined as strategies monitoring and controlling his or her own behavior as a learner. *Metalinguistic strategies* are considered as strategies that can be applied through a certain or high level of metalinguistic ability. *Problem-solving strategies* refer to strategies trying to solve learning difficulties when one confronts them or to avoid them before they occur. Lastly, we use the term of performance strategies in the sense that the strategies play an immediate role in language performance, to put it another way, practical language behaviors (i.e. speaking, listening, reading, and writing).

Hours Spent Learning English

Additionally, the data on how much time the students learn English were gathered simply by asking each student an average number of hours per day spent in learning English, excluding the number of hours of English classes at school.

Metalinguistic Ability

L1 metalinguistic ability test consists of two parts: ambiguity detection task and grammatical relation perception task. Let us show examples of these tasks. Consider this sentence 親戚の訪問はめんどうになる. Participants were asked to give the two possible meanings of the sentence. This sentence might have two different meanings, based on the viewpoint of the visitor and the receiver of the visitor. This type of ambiguity is called deep structure ambiguity (Foss, Bever, & Silver, 1968; Hoppe & Kess, 1980; Nagai, 2012). Ambiguity detection task involves another type of ambiguity: surface structure ambiguity (Foss, et al., 1968; Hoppe & Kess, 1980; Nagai, 2012).

Now let us see the two sentences A and B below. A is the key sentence and B is the target sentence.

A) 次郎にもらった指輪はとっくの昔に捨てた。
   [Long ago, I threw out a ring that Jiro gave me.]
B) (道を)間違えて遅刻してしまった。
   [I mistook (the road) and ended up being late.]

Participants were asked to find a word or phrase in sentence B, whose grammatical relation is the same as the underlined word or phrase in sentence A. Then, they were also asked to indicate it by bracketing. You see the particles are different, 指輪は and 道を, yet their grammatical relations are the same, both have an object relation in each sentence. Grammatical relation perception task consists of two more types of items: subject and modification relation. The reliability of the two tests based on Cronbach's alpha coefficient is as follows: .59 for the pre-test and .72 for the posttest. Each has 20 items with a corresponding one point, for a total of 20 points. involves 20 items in total.

English Performance

The English performance test also consists of the two parts: an exercise on scrambled sentences and another on sentence correction. To answer the scrambled sentence exercise, participants were shown Japanese sentences that are supposed to translate into English. Then, they were asked to unscramble English words according to the meaning of the Japanese sentences. To answer the sentence correction exercise, participants were given grammatically incorrect sentences and were asked to identify, explain and correct the errors. In this exercise, one point is given when the participant is able to identify the error, and another point is given when an explanation is correctly given. The reliability of the two tests based on Cronbach's alpha coefficient is as follows: .89 for the pre-test and .86 for the posttest. Each has 12 items with a corresponding one point, for a total of 12 points. Some examples of the items can be seen in the Appendix.

Metalinguistic Instruction

After completing a pre-questionnaire and pretests, participants attended two classes. We basically gave a lecture to them in Japanese. We started each class by showing the students the goals of the lecture, and then we proceeded to the giving of the lecture. After that, students worked on the excersices related to the lecture. And finally they reviewed what they have learned during the lecture. The first class was designed to deal with grammatical relations (i.e., subject relation, object relation, and modification relation) by referring to word order, sentence structure, and semantic role. The other class was deigned to explicitly teach the concept of word class, in particular, noun, verb, adjective, and adverb. We referred to functions and morphological forms of each word class and students were told to be aware of how word class is connected with grammatical relations, which the students have learned the previous day.

Additional Condition: Japanese vs. English

As previously stated, the present study focuses on the role of "L1" metalinguistic ability in FLL. Therefore, we decided to set up an additional experimental condition relevant to our focus. As mentioned above, there were two groups of our participants. The exercises given to Group A emphasized the importance of being aware of and thinking about the nature and functions of the Japanese language. We were able to do so by instructing the participants to analyze the structure of the Japanese sentences that they are to translate in English. For the second group, the exercises were aimed at stating the advantages of being conscious about the word classification and grammar. However, the importance of being aware of L1 was not mentioned. It may reveal our concern to compare these two groups.

Results and Discussion

Correlation coefficients between English pretest and the other variables are shown in Table 1. Unexpectedly, none of the motives were significantly correlated with English performance.

Table 1.
Correlations between English Performance and the other variables (N = 48)

		L	U	T	SR	R	MC	ML	PS	P	SEF	H	MA	E	mean	df
	Linguistic interest (L)	-	.509**	.548**	.449**	.131	.275	.391**	.388**	.329*	.290*	-.045	.018	.114	2.806	.815
Motives	Utility value (U)		-	.153	.341*	.169	-.092	-.006	.051	.126	.216	-.115	.006	.248	3.530	.850
	Training (T)			-	.529**	.372**	.301*	.350*	.219	.076	.102	.081	.004	.112	2.882	.966
	Self-esteem / Relation (SR)				-	.467**	.409**	.304*	.256	.136	.254	.014	-.125	.053	2.927	.824
	Reward (R)					-	.181	.100	-.039	-.017	-.018	-.188	.139	-.100	3.451	1.014
	Metacognition (MC)						-	.740**	.714**	.525**	.366**	-.245	.184	.087	2.617	.947
Learning strategies	Metalinguistics (ML)							-	.809**	.715**	.571**	-.241	.220	.180	2.983	.891
	Problem-solving (PS)								-	.663**	.522**	-.157	.194	.298*	3.354	1.033
	Performance (P)									-	.693**	-.406**	.258	.293*	3.448	.884
	Self-efficacy (SEF)										-	-.365**	.281	.583**	3.029	1.150
	Hours (H)											-	-.117	.017	.902	.668
	Metalinguistic ability (MA)												-	.517**	10.270	2.930
	English (E)													-	4.980	3.461

Note. **p < .01 *p < .05

Motives have been traditionally considered as one of crucial factors in SLA or FLL and a lot of preceding studies have highlighted its impact on language proficiency (e.g., Dörnyei, 2010; Gardner, 1985; Ushioda; 2011). The current strange result might be brought because our English test dealt with only specific items: unscrambling and correcting sentences. If the test contains other different problems such as listening and reading comprehension, we might obtain results corresponding previous findings. On the other hand, problem-solving and performance strategies among learning strategies significantly correlated with English performance. Self-efficacy and metalinguistic ability showed much higher coefficients than the other variables (r = .583 and .517, respectively), which suggests that these two variables have a notably close relation to foreign language performance.

Figure 1 summarizes the result of multiple regression analysis. English performance was taken as an objective variable and the other variables that were significantly correlated to English performance were selected as exploratory variables: self-efficacy, problem-solving strategies, performance strategies, and metalinguistic ability. As seen in Figure 1, metalinguistic ability and self-efficacy significantly predicted English performance.
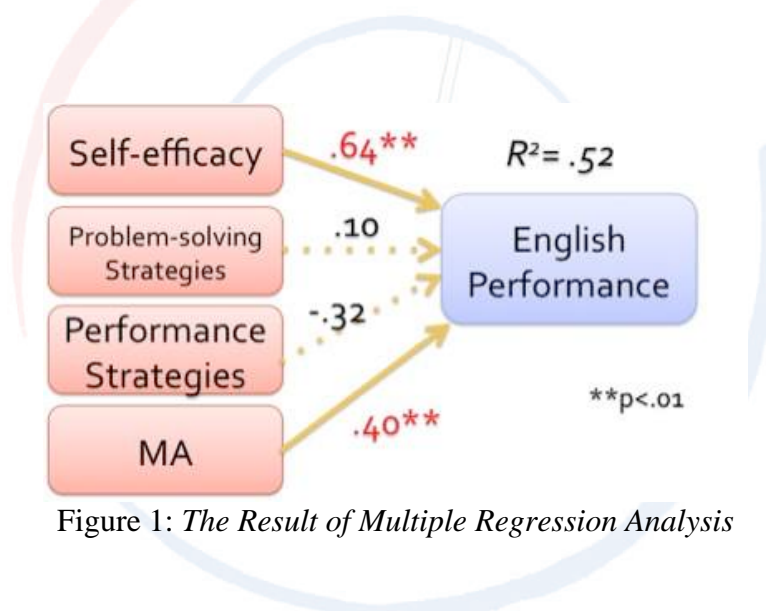
Figure 1: *The Result of Multiple Regression Analysis*

Regarding metalinguistic ability, there was no significant difference between the scores of pretest and posttest both in Group A and Group B. In contrast, English posttest score was significantly higher than English pretest score in both groups. However, we didn't find a significant difference between groups. Table 2 and Table 3 summarize descriptive statistics of MA and English performance. Table 4 indicates the results of ANOVA regarding comparison between English pretest and posttest.

According to the results of multiple regression analysis, it can be said metalinguistic ability has a significant influence on FLL independently of strategy-use and motivation. We can recognize from this finding that metalinguistic ability is one of considerable factors in FLL as well as strategy-use and motivation. On the other hand, the result of comparison between pretest and posttest of English performance suggests explicitly teaching metalinguistic knowledge is effective to improve foreign language performance. What we may notice here is that there were no significant difference

between groups. One possibility is to assume that the time allocated for intervention was too short to generate a distinctive difference. Another possibility is that Group A had less time to reflect upon and discuss the target English sentences than Group B since we spent much time explaining syntactic structure of Japanese sentences in Group A.

Table 2.
Comparison between Pretest and Posttest of Metalinguistic Ability

Group	pre - post	*mean*	*SE*	Min.	Max.
A Experimental (N= 24)	pre	10.750	.599	5	15
	post	9.250	.741	3	18
B Control (N = 24)	pre	9.833	.599	0	16
	post	10.542	.741	2	17

Table 3.
Comparison between Pretest and Posttest of English Performance

Group	pre - post	*mean*	*SE*	Min.	Max.
A Experimental (N= 24)	pre	5.000	3.284	0	10
	post	6.042	3.407	0	11
B Control (N = 24)	pre	4.958	3.701	0	11
	post	6.292	3.394	0	11

Table 4.
The Result of ANOVA

		df	*MS*	*F*	*P*
Between Samples	Group	1	.26	.01	.912
	Error (a)	46	20.99		
Within Samples	Pre - Post	1	33.84	12.06**	.001
	Group × Pre -Post	1	.51	.18	.672
	Error (Pre - Post × a)	46	2.81		

Turning now to metalinguistic ability, we must draw attention to no difference between pretest and posttest. It is possible to make the following assumption to this result. The students of Group A were given explicit explanations about Japanese particles such as が*(-ga)* and を*(-o)*, so that these language forms made a striking impression to them. Hence, taking the posttest of metalinguistic ability, they might have concentrated on formal features of words or phrases instead of following their intuition about language expressions.

In addition, it is supposed that the time allocated to intervention was too short similarly to the first possibility that was described with regard to the result of comparison between pretest and posttest of English performance.

We have some other limitations on our findings. Firstly, we could not clear results about the relationship between metalinguistic ability and motivation but also between metalinguistic ability and learning strategies. There is need to inspect these relationships more closely. The results may be different when we conduct the same experiment with a larger number of participants or older participants like high school and university students. Secondly, although this study focuses on syntax awareness (ambiguity detection and grammatical relation perception), it may be important to note the role of other metalinguistic factors in FLL: morphological awareness, phonological awareness, and pragmatic awareness. Considering these limitations, we need to refine the design of our experiment for future research.

Conclusion

Let us conclude this paper by giving answers for research questions asked in the section of "purposes". Recall the questions here,

Q1: How important a role does MA play in FLL, compared to other factors such as motivation and learning strategies?
Q2: Does metalinguistic instruction for learners enhance their foreign language performance?

For the first questions, our finding suggests L1 metalinguistic ability plays a significantly important role in FLL as well as motivation and learning strategies. We should not ignore its role on the grounds that L1 metalinguistic ability significantly predicted independently of the other variables. Cummins's (1978, 1979) Developmental Interdependence hypothesis is in agreement with our argument. His theory states that L2 proficiency partly depends on L1 linguistic knowledge and skills that has already been acquired. Also, his model shows that there is a common underlying basis that the L1 and the L2 share. More specifically, if the L1 is sufficiently developed prior to the extensive exposure to the L2, a positive process of L2 learning can be expected.

Furthermore, we obtained a meaningful answer for the second question. The answer is "yes", that's, explicit instruction on meta-syntactic concept positively affects learners' performance. The progress in English performance test proves it clearly. Our results support previous findings that explicit instruction leads to increment in some aspects of the target language (Macaro & Masterman, 2006; Nazari, 2013). Though one might argue that meta-syntactic concept seems to be too abstract for young students, yet our results show that explicitly teaching metalinguistic knowledge is effective for them to enhance their foreign language performance. In Japan's educational environment, each word class is generally taught individually, so to speak, *asunder* (e.g., "Today's class will treat *noun*, the next class *adjective*, and the class after the next *adverb*…"). However, language teachers should treat all of word classes comprehensively at the same time so that their students can build up structured knowledge about syntactic and semantic concept.

With regard to grammatical relations, language teachers should make learners aware of them whenever possible, in particular, when their students read or write complex sentences.

Acknowledgement

References

Alderson, J.C., Clapham, C., and Steel, D. (1997). Metalinguistic knowledge, language aptitude and language proficiency. *Language Teaching Research*, *1*(2), 93-121.

Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review, 64*, 359-372.

Cazden, C. B. (1974). Play and metalinguistic awareness: One dimension of language experience. *The Urban Review*, *7*(1), 28-39.

Cummins, J. (1978). Bilingualism and the development of metalinguistic awareness. *Journal of cross-cultural psychology*, *9*(2), 131-149.

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of educational research*, *49*(2), 222-251.

Dörnyei, Z. (1994). Motivation and motivating in the foreign language classroom. *The Modern Language Journal, 78*, 273-284.

Dörnyei, Z. (2010). The relationship between language aptitude and language learning motivation: Individual differences from a dynamic systems perspective. In Macaro, E. (Ed.), *The Continuum Companion to Second Language Acquisition*, 247-267. London: Continuum.

Foss, D. J., Bever, T. G., and Silver, M. (1968). The comprehension and verification of ambiguous sentences. *Perception and Psychophysics, 4*(5), 304-306.

Fujita, M. (2013). *Metalinguistic Awareness and Foreign Language Proficiency in Early Stage Learners.* (Unpublished master's thesis). Keio University. Tokyo.

Gardner, R. C. (1985). *Social Psychology and Second-Language Learning: The Role of Attitudes and Motivation*. London: Edward Arnold.

Hoppe, R. A., and Kess, J. F. (1980). Differential detection of ambiguity in Japanese. *Journal of Psycholinguistic Research, 9*(3), 303-318.

Ichikawa, S. (1995). *Gakushu to Kyoiku no Shinrigaku [Psychology for Learning and Teaching]*. Tokyo: Iwanami Publication.

Igarashi, M. (2014). Developing a scale to measure motivation for learning English and investigating the relationship between metalinguistic awareness and motivation. *JACET Summer Seminar Proceedings*, *12*, 32-36.

Kusube, M. (1986). *Metalinguistic Abilities across Languages*. (Unpublished master's thesis). Tokyo Gakugei University. Tokyo.

Lasagabaster, D. (2001). The effect of knowledge about the L1 on foreign language skills and grammar. *International Journal of Bilingual Education and Bilingualism, 4*(5), 310-332.

Macaro, E., & Masterman, L. (2006). Does intensive explicit grammar instruction make all the difference?. *Language Teaching Research*, *10*(3), 297-327.

Mori, Y. (2004). Relationships between self-efficacy and learning strategies of English in college students. *Journal of Japan Society of Educational Technology, 28*, 45-48.

Nagai, A. (2012). *Metalinguistic Ability and Foreign Language Proficiency.* (Unpublished master's thesis). Keio University. Tokyo.

Nazari, N. (2013). The effect of implicit and explicit grammar instruction on learners' achievements in receptive and productive modes. *Procedia-Social and Behavioral Sciences*, *70*, 156-162.

Oxford, R. L. (1990). *Language Learning Strategies: What Every Teacher Should Know.* Boston: Heinle and Heinle.

Pintrich, P. R., and De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*(1), 33–40.

Pratt, C., and Grieve, R. (1984). The development of metalinguistic awareness: An introduction. In Tunmer, W. E., Pratt, C., and Herriman, M. L. (Eds.), *Metalinguistic Awareness in Children: Theory, Research and Implications,* 2-11. New York: Springer-Verlag.

Roehr, K. (2008). Metalinguistic knowledge and language ability in university-level L2 learners. *Applied Linguistics, 29*(2), 173-199.

Rutherford, W. E., & Sharwood Smith, M. (1985). Consciousness-raising and universal grammar. *Applied linguistics*, *6*(3), 274-282.

Schmidt, R. W. (1990). The role of consciousness in second language learning. *Applied linguistics*, *11*(2), 129-158.

Skehan, P. (1991). Individual differences in second language learning. *Studies in Second Language Acquisition, 13*, 275–298.

Tunmer, W. E., and Herriman, M. L. (1984). The development of metalinguistic awareness: a conceptual view. In Tunmer, W. E., Pratt, C., and Herriman, M. L. (Eds.), *Metalinguistic Awareness in Children: Theory, Research and Implications,* 12-35. New York: Springer-Verlag.

Ushioda, E. (2011). Why autonomy? Insights from motivation theory and research. *Innovation in Language Learning and Teaching, 5*(2), 221–232.

Appendix

- ➢ Examples of scrambled sentence tasks
  - エマは髪が短くて、きれいな目をしている。(Japanese target sentence)
    (has / eyes / and / Emma / short / is / hair / beautiful / are).
    ※ *Two words are unnecessary.*

  - 彼女の親切が忘れられないから、お礼の手紙を書くよ。
    (Japanese target sentence)
    Because (her / I / I / kindly / kind / kindness / forget / write / a thank-you letter/ to her / can't / will).
    ※ *Use a comma in the sentence.*
    ※ *Two words are unnecessary.*

- ➢ Examples of sentence correction tasks
  - 「田中先生はどこ？」「田中先生は教室ですよ。」
    (Japanese target sentence)
    "Where is Ms.Tanaka?" "Ms. Tanaka (She) is the classroom."

  - ジャックは私に幸せをくれる。(Japanese target sentence)
    Jack gives happy to me.

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Violence toward Family of Schizophrenia with Alcohol Drinking Patients

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Abstract

The purpose of this descriptive research was to study the prevalence of violence toward family of schizophrenia with alcohol drinking patients, characters of violence and consequences of violence perceived by their family members. The sampling group was family members of schizophrenia with alcohol drinking patients who were admitted to Khon Kaen Rajanagarindra Psychiatric Hospital, Khon Kaen province between May-July 2014. The studied subjects were 96 family members. Research instrument was a reliable questionnaire which was α .89 and tested by Cronbach Alpha Coefficient. The data was analyzed as percentage, average, standard deviation, and 95% of CI. The results were as follows;

The prevalence of violence toward family was 89.6% (95% CI; 0.85 - 0.94) including psychological and emotional violence 89.6% (95% CI; 0.85 - 0.94), financial and property violence 60.4% (95% CI; 0.57 - 0.63), physical violence 47.9% (95% CI; 0.45 - 0.51) and sexual violence 26% (95% CI; 0.09 - 0.21) the most found violent characters were 1) psychological and emotional violence including delusion of jealousy 2) financial and property violence including having a fight against family expenses 3) physical violence including throwing objects 4) sexual violence including raping wives. Wife was abusive the most. The consequences found were 1) divorce found in wives 2) sadness found in mothers 3) suffering married life found in husbands 4) studying problems or bullying behaviors found in children. The results shows that schizophrenia patients who were alcohol drink caused violence and impacts within families, therefore, the family members should have been supported effectively.

Keywords: Violence, Family, Schizophrenia with alcohol drinking patients

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Introduction

Schizophrenia is the most common form of psychosis which is reported 1-1.5% of world population, an incidence of 0.1-0.5 per 1,000 person-years, Lifetime prevalence of 7.0-9.0 per 1,000 persons (Manoad Lautrakun, 2007). Schizophrenia is also brain disorder in thinking, perception, emotional expression and behavior (WHO, 2002; cited in Somphorn Rungreaungkonkit, 2006). The symptom is chronic and progressive course. Even some patients were recovered but the symptom still occurred time to time (Manoad Lautrakunand Pramote Sukanit, 2012). Besides the chronic symptoms, schizophrenia may cause by substance abuse and the most common found is alcohol abuse since alcohol is easy to access and legal; therefore, schizophrenia patients tend to abuse alcohol widely (Cuffel, 1996). According to a study on alcohol abuse, it showed that schizophrenia patients had 47% of alcohol abuse more than others (Regier et al., 1990). Further, schizophrenia patients had 40-60% of alcohol abuse (Cantor et al., 2005). In addition, Mallakh (1998) stated that 51% of schizophrenia patients had abused alcohol. The reason of alcohol abuse was to relief the schizophrenia symptoms, reduce side effect of its remedy (Chambers et al., 2001) also to reduce stress and pain (Dixon et al., 1991) and to help thinking, making decision, self-control and having good personality (Mueser et al., 1998).

The violence caused by schizophrenia patients tends to be more violent and harmful according to previous studies; for example, from the study of 1,410 schizophrenia patients' violence level who had substance or alcohol abuse in America, it was found that 29.1% were severe violent,15.5% were violent and 3.6% were less violent and there was an increase of violence on alcohol abuse as 30% (Swanson et al., 2006). Regarding violence in 8,886 schizophrenia patients who were alcohol abuse in England, Wales, and Scotland, Coid et al. (2006) demonstrated that 12% were violent, 5% were violent when having substance or alcohol abuse and it was found that violence related factor was alcohol abuse. In England, 20% of alcohol abuse schizophrenia patients harm others and 8% of schizophrenia patients who had not abused alcohol harm others (Crebbin et al., 2008). In Sweden, McGrath et al. (2009) found that 25.2% of male who had abused alcohol and had diagnosed as schizophrenia acted violent, 3.6% of male who had not abused alcohol and had diagnosed as schizophrenia acted violent, and alcohol abuse schizophrenia patients acted violent more than schizophrenia patients who had not abused alcohol as 9.5 times.

In America, Sweden, Denmark, and Finland, it was found that 0.3% of alcohol abuse schizophrenia patients were at risk of committing crime where as schizophrenia patients were 0.02% of committing crime (Fazel et al., 2009). In Tunisia, alcohol abuse schizophrenia patients acted violent as 53% and schizophrenia patients acted violent as 13% (Ellouze et al., 2009). In Australia, Dolan et al. (2012) found that schizophrenia patients acted violent as 39.1% and violence related factors were male and alcohol abuse.

Violence toward family is sensitive and related to family members. According to Friends for Women Foundation, violence toward family as physical violence is against women especially wives. There were both 916 reported and unreported case since 2010. 645 male abusers which was 86.23% whereas 86 female abusers. Also there were 653 female victims which was more than male victims as 87.18%.

Characters of violence which wives most encountered was 61.29% of physical violence and 27.54% of emotional violence respectively. Next is relationship between abuser and victim issue. There were 694 violence toward family cases which was 87.08% from 797 reported cases. The most common found was married relationship; it was 479 persons or 71.61%. Further, 97 victims or 89.81% of 108 reported cases were wives (Office of Women's Affairs, 2011). In Thailand, there has been an increase rate of abused victims who are female and children within family. This crisis is in danger as it is dramatically increasing for 35% within a year and 40% was female victims. Violence against women is the most common found in the age of 24-45 years which is 74%. The first violence found was physical violence as 9,699 cases or 77%, and the second was sexual violence as 2,226 cases or 18%. The most abuse victim found was spouse as 53% (United Nations Women, 2013).

Regarding a study on alcohol consumption behavior and violence against women in Khon Kaen province Thailand, it was found that a group of wife whose husbands have abused alcohol and a group of alcohol abuse wives whose husbands also have abused alcohol both were at risk of being harassed violently as 4.27 times and 8.55 times respectively. Moreover, alcohol consuming behavior of wives and husbands caused violence; for instance, they acted violent when they consumed alcohol beverages (Pongdetch Sarakan et al., 2011).

From worldwide studies, the estimation of violence toward family between spouses who had mental problem was 71% (Trevillion et al., 2012). Ayub et al. (2009) studied violence toward family in spouses which husbands had mental disorder in Pakistan and found that those husbands tended to have violence toward family as 64.3%

Consuming alcohol beverages of schizophrenia patients would affect their physical health; Khon Kaen Rajanagarindra Psychiatric Hospital (2011b) found that it affected to the whole body system both acute and chronic. SuanPrung Psychiatric Hospital (2007) also stated that alcohol abuse consequence to psychosocial aspect as schizophrenia patients would lose the jobs, and have worse relationships. Further, their mental health is also getting worse as lacking of responsibility and being dementia. Additionally, the consequence on psychological aspect is the worst which caused female victims terrified, dependent, depressed, or severely worried then isolating and anti-social (Ronnachai Kongsakon and Nareumon Phojam, 2007). Michael et al.,1995 ; Shrestha et al. (1985) found that schizophrenia with alcohol drinking husbands had delusion of jealousy which is a dominant symptom and causes violence against wives. Mullen (1990) stated that husbands who had erectile dysfunctional so had delusion of jealousy and it caused physical violence against wives. Violence toward family caused the family members sad, depressed, furious, and unhappy (Supattana Dechatiwong Na Ayutaya, 2007) and the violence also consequence to children as they had physical violence and psychological and emotional violence (Kingham & Gordon., 2004; Kritaya Sawangchareon et al., 2003)

This violence toward family causes conflicts to everyone (Ronnachai Kongsakon and Nareumon Phojam, 2007) which could be counted as major social and public health concerns. We could see from an increasing of schizophrenia, mental disorder, and alcohol abuse incidences in Khon Kaen Rajanagarindra Psychiatric Hospital Thailand, Khon Kaen stated that in 2013 there were 96,213 patients admitted to the hospital; 54,655 patients or 56.8% were male; 41,558 patients or 43.2% were female.

The severe patients admitted were 2,888 and the symptoms found were delusion, violent behavior, and beating others. Schizophrenia is the most diagnosed disorder and there were 1,150 patients; 908 of male and 242 of female or 49.4%, the second was metal and behavioral disorder due to use of alcohol and there were 326 patients; 318 of male and 8 of female or 14.0% finally, the third was bipolar affective disorder and there were 134 patients; 69 of male and 65 of female or 5.8%.

In Thailand, there are not many studies regarding violence of schizophrenia with alcohol drinking patients even it is the most common found and the patients often return to have a treatment repeatedly. According to the afore mentioned incidence, the researcher would like to portray view of victims who are family members as to study the prevalence of violence toward family of schizophrenia with alcohol drinking patients, characters of violence and consequences of violence towards family of schizophrenia with alcohol drinking patients in order to help solving and preventing violence toward family incidence.

Research Methodology

This study was descriptive research. The subjects were family members of schizophrenia with alcohol drinking patients who were admitted to Khon Kaen Rajanagarindra Psychiatric Hospital Thailand, Khon Kaen province Thailand between May – July 2013. The subjects were employed by will ingness and agreed to complete the questionnaire with normal condition. The 96 persons were answer verbally and were calculated by the follow formula; $n = Z^2_{1-\alpha/2} P(1-P) / d^2$ (Lwanga,S.K. and Lemeshow, 1990)

Research instrument was a questionnaire divided into 3 parts; 1) personal information, level of alcohol abuse and dominant symptoms, family information and relationship in family which created by the researcher 2) characters of violence which applied from a questionnaire of Kritaya Sawangchareon et al. (2003) 3) consequences of violence which applied from a questionnaire of Kritaya Sawangchareon et al. (2003). The family members would answer by their perceived. This instrument had been done validity content by 5 experts and had been tested the reliability by other 30 family members. This questionnaire employed Cronbach alpha coefficient into account and the α was .89

The researcher collected all data. The subjects were under rights as the researcher declared research objectives, data collecting process, and asked for cooperation in delivering information. Further, the subjects had rights to join or reject in participating. The willing subjects would verbally accept in joining the project. The researcher collected data individually as the subjects read and answered the questionnaire by themselves, but if some subjects could not read or write, the researcher would read the questions and write the answers for the subjects individually. Each subject of non- violence toward family group would spend 5 minute in completing the questionnaire whereas each of violence toward family group would spend 40-50 minute in completing the questionnaire. If violence was found during the session, the subjects were free to talk about it. When the questionnaires completed, there would be medical treatment afterwards. If some needed help consecutively, it would be reported to resident nurses and the researcher also handed informational leaflets to the subjects.

The collected data was analyzed by descriptive statistic as percentage, average, standard deviation and 95% CI

Conclusions

1.**General Information and Family Information of Schizophrenia with Alcohol Drinking Patients and Their Family Members**

There were 96 of schizophrenia with alcohol drinking patients which described as 82.5% of male and 17.5% of female. The average age was 36.8 year. There was 52.4 % of married couple. 44.8% was completed grade 6. Most of them were temporary workers as 38.5%. Level of alcohol abuse of schizophrenia patients in 1 year could be described as 53.1% had always abused and dominant symptom was delusion as 65.5%. The 96 subjects who were family members could be stated as 86.3% was female; the average age was 35.2 year. 51.0% was completed grade 6. Most of them were temporary workers as 60.4%. The average family income was 14,911.46 baht per month. Most of them were nuclear family as 52.1%; relationship in family reported as rough sometimes as 50.0%.

Violence against Family Members Perceived by Their Family Members

There were 86 persons of family members who encountered violence toward family. The prevalence of violence toward family was 89.6% (95% CI; 0.85 - 0.94). These schizophrenia with alcohol drinking patients characters to their family including psychological and emotional violence the most for 86 persons or 89.6% (95% CI; 0.85 - 0.94), financial and property violence for 58 persons or 60.4% (95% CI; 0.57 - 0.63), physical violence for 46 persons or 47.9 (95% CI; 0.45 - 0.51) and the last was sexual violence for 25 persons or 26% (95% CI; 0.09 - 0.21) as described in Table 1.

Table 1   characters of violence and percentage of each violence perceived by their family members

characters of violence	Persons	%
Non-violence found	10	10.4
Violence found (at least 1 character)	86	89.6
Physical violence	46	47.9
Psychological and emotional violence	86	89.6
Financial and property violence	58	60.4
Sexual violence	25	26.0

2. Characters of Violence Perceived by Their Family Members

The most common found was 1) psychological and emotional violence including 83.3% of delusion of jealousy, 50.0% of quarrelling and 47.9% of being sarcastic. Wife was abusive the most. 2) financial and property violence including 54.2% of having of daily expenses, 45.8% of spending other personal income and 25.0% of stealing other money to gamble or alcohol abuse. Mother was abusive the most. 3) physical violence including 47.9% of throwing objects, 33.3% of hitting, beating, or

kicking and 12.5% of beating with object or weapon to injury. Wife was abusive the most. 4) sexual violence including 26.0% of raping, 19.8% of being mad when it was not on demand and 9.4% of forcing to have sex. Wife was abusive the most.

3. Consequences of Violence Perceived by Their Family Members

The members realized that there were consequences of violence as 64.6% toward wives asking for divorce, 52.1% toward mothers felt sadness, 33.3% toward husbands were unhappy in married life and 16.7% toward children studying problems or bullying behavior as described in Table 2.

Table2 consequences of violence and percentage of each violence perceived by their family members

consequences of violence toward family	persons	%
1. wives	62	64.6
2. mothers	50	52.1
3. husbands	32	33.3
4. children	16	16.7

Discussion

1. Violence toward Family of Schizophrenia with Alcohol Drinking Patients Perceived by Their Family Members

It was found that schizophrenia with alcohol drinking patients acted violent against the members as 89.6% (95% CI; 0.85 - 0.94) or 86 persons which is frequent found and this is more than the result of Ellouze et al. (2009) who studied about violence in families which husbands were schizophrenia patients in Tunisian hospital. From the comparison of 30 schizophrenia patients who acted violent and 30 schizophrenia patients who did not act violent, it showed that 53% of violent act from schizophrenia with alcohol abuse husbands. This might be because the population of the study did not focus on schizophrenia with alcohol abuse patients but all schizophrenia patients and the 2 groups were different in culture aspect.

Michael et al. (1995) study that schizophrenia with alcohol abuse patients had an influence on psychological and emotional violence as 89.6%, financial and property violence as 60.4%, and physical violence as 47.9% respectively since family members are very close and have to take care of patients so it might cause severe abuses to the members easily (Cobb, 1979). In terms of abuse experience, the members often encountered severe physical violence (Mullen & Maack., 1985) and there were bruises, cuts, or even severe injuries. They also felt angry, paranoid, or terrified (Heckert & Gondolf., 2000).

2. Characters of Violence Perceived by Their Family Members

The most common found was 1) psychological and emotional violence including 83.3% of delusion of jealousy which is a dominant symptom and causes violence against wives. (Michael et al., 1995; Shrestha et al., 1985), Erectile dysfunctional so

had delusion of jealousy and it caused physical violence against wives (Mullen, 1990), 50.0% of quarrelling and 47.9% of being sarcastic 2) financial and property violence including 54.2% of having fights because of daily expenses, 45.8% of spending other's personal income and 25.0% of stealing others money to gamble or alcohol abuse 3) physical violence including 47.9% of throwing objects, 33.3% of hitting, beating, or kicking and 12.5% of beating with object or weapon to injure 4) sexual violence including 26.0% of raping, 19.8% of being mad when it was not on demand and 9.4% of forcing to have sex.

3. **Consequences of Violence Perceived by Their Family Members**

The consequences were found in wives, mothers, husbands and children as follow;
First of all, wives would like to get divorced, be sad, and be unhappy as 64.6%, 62.5%, and 60.4% respectively and this is relating to a study of metal consequences of physical violence wives which stated that most victims were terrified, dependent, being obsessive-compulsive disorder, worried, aggressive, or depress (Siripetch Siriwattana, 1995). Nitchawan Weerawattanodome (1997) study that 15-44 year female patients in Chainat Hospital Thailand, Chinat province Thailand faced of metal consequences of psychological and emotional violence such as 100% of feeling sad and 98.8% of having bruises. Children also encountered violence as studying problems/bullying/bad behavior, being sad and being beaten which was 33.3%, 16.7% and 1.0% respectively. Kritaya Sawangchareon et al. (2003) also stated that the victims might cause cycle of violence as the children who faced of metal consequences of violence toward family would abuse their own family as intergenerational transmission of violence.

In regarding to the afore mentioned studies, each family had perceived   violence toward family differently. Delusion of jealousy is the most common dominant symptom found in schizophrenia with alcohol drinking patients. The most violence found in mothers percept is economic abuse which is quarrelling about getting money to buy alcohol beverages. The most abuse found in husbands view is unhappy married life. Last abuse found in wives percept is raping which is directly against wives. In the same way of psychological and emotional violence, family members felt guilty, worried, bored and unhappy (Siripetch Siriwattana, 1995 and Heckert & Gondolf, 2000). These accounts of incident might be different but violence toward family has worsen physical and mental health of the family members, hence, taking care of schizophrenia with alcohol drinking patients must be concerned about violence toward family as well.

References

Ayub, M., Irfan, M., Nasr,T., Lutufullah, M., & Kingdon, D. (2009). **Psychiatric morbidity and domestic violence: A survey of married women in Lahore.** Social Psychiatry and Psychiatric Epidemiology.

Bellack, A.S., & DiClemente, C.C. (1999). **Treating substance abuse among patients with schizophrenia.** Psychiatric Services.

Cantor, E., & Selten, J.P. (2005). **Schizophrenia and migration: a meta-analysis and review.** American Journal of Psychiatry.

Chambers, A., Krystal, J.H., & Self, D.W. (2001). **A neurobiological basis for substance abuse comorbidity in schizophrenia.** Biological Psychiatry.

Cobb, J. (1979). **Morbid jealousy.** British Journal of Hospital Medicine, 21, 511–518.

Coid, J., Yang, M., Roberts, A., Ullrich, S., Moran, P., Bebbington, P., et al. (2006). **Violence and psychiatric morbidity in the national household population of Britain: public health implications.** The British Journal of Psychiatry.

Crebbin, K., Mitford, E., Paxton, R., & Turkington, D. (2008). **Drug and alcohol misuse in first episode psychosis: An observational study Neuropsychiatric Disease and Treatment**. Biological Psychiatry, 4(2), 417-423.

Cuffel, B.J. (1996). **Comorbid substance use disorder: Prevalence, patterns of use, and course.** Journal of Nervous and Mental Disease.

Dixon, L., Haas, G., Weiden, P., Sweeney, J., & Frances, A. (1991). **Drug abuse in schizophrenia patients: clinical correlates and reasons for use.** The American Journal of Psychiatry, 148, 224–230.

Dolan, M.C., Castle, D., & McGregor, K. (2012). **Criminally violent victim isation in schizophrenia spectrum disorders: the relationship to symptoms and substance abuse.** BMC Public Health, 12, 445.

Ellouze, F., Ayedi, S., Masmoudi, S., Bakri, L., Chérif, W., Zramdini, R., et al. (2009). **Schizophrenia and violence, incidence and risk factors: a Tunisian sample.** Elsevier Masson. Encephale, 35(4), 347-352.

Fazel,S., Gulati,G., Linsell,L., Geddes,.J.R., & Grann ,M. (2009). **Schizophrenia and Violence: Systematic Review and Meta-Analysis.** Public Library of Science Medicine.

Heckert, D.A., & Gondolf, E.W. (2000). **Assessing assault self – report by batterer program participants and their partners.** Journal of Family Violence, 15(2), 181–197.

Lwanga, S.K. & Lemeshow, S. (1990). **Adequacy of Sample size in health studies.** New York: John Wiley & Sons Ltd.

Mallakh, P. (1998). **Treatment models for clients with Co-occurring Addictive and Mental Disorders.** Archives of Psychiatric Nursing, 7(2), 71-80.

McGrath, J.J., & Susser, E. (2009). **New directions in the epidemiology of schizophrenia.** The Medical Journal of Australia, 190(4), S7-9

Michael, A., Mirza, S., & Mirza, K. A. H. (1995). **Morbid jealousy in alcoholism**. British Journal of Psychiatry, 167, 668–672.

Mullen, P. E. (1990). **Morbid jealousy and the delusion of infidelity.** In Principles and Practice of Forensic Psychiatry. London: Churchill Livingstone.

Mullen, P. E. & Maack, L. H. (1985). **Jealousy, pathological jealousy and aggression.** In Aggression and Dangerousness. (eds Farrington, D. P. & Gunn, J.). London: Wiley.

Sawangchareon, K., Wattananukulkeirt, S., Chanthapreeda, N., Tanwattanakul, J. & Itrat, P. (2003). **Husbands' violence against wives in Northeast Thailand.** Journal of Nurses' Association of Thailand, North-Eastern Division.

Swanson, J.W., Swartz, M.S., Van Dorn, R.A., Elbogen, E.B., Wagner, H.R., Rosenheck, R.A., et al. (2006). **A National Study of Violent Behavior in Persons with Schizophrenia.** Archives of General Psychiatry, 63(5), 490-499.

Shrestha, K., Rees, D. W., & Rix, K. J. B. (1985). **Sexual jealousy in alcoholics.** Acta Psychiatrica Scandinavica, 72, 283–290.

Trevillion, K., Oram, S., Feder, G., & Howard, L.M. (2012). **Experiences of Domestic Violence and Mental Disorders: A Systematic Review and Meta-Analysis.** Public Library of Science Medicine, 7(12), e51740.

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Self-Efficacy, E-Learning and Online EFL Proficiency Test

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Abstract

Previous studies have reported that self-efficacy plays an important role as a predictor of learners' motivation and learning. This study focused on general self-efficacy, which is the belief in one's competence to cope with a broad range of stressful or challenging demands, in language learning. Relations between general self-efficacy and EFL (English as a Foreign Language) learners' performance in e-learning and their scores on online English proficiency tests were examined. Participants of this study were 60 EFL university students in Japan aged between 18 and 21. Their perceived self-efficacy was assessed using Japanese Adaptation of the General Self-Efficacy Scale (Ito, Schwarzer, & Jerusalem, 2005). All students studied with e-learning courses (Net Academy 2, developed by ALC) in class and out of class. They also took two types of online English proficiency tests: TOEIC Practice Test developed by ALC Press, Inc. and CASEC developed by the Society for Teaching English Proficiency, Inc. Statistical analyses such as t-tests, factor analyses, and Pearson's correlation tests were conducted. Results show that advanced EFL learners with higher general self-efficacy scored higher on the online tests. The results also revealed that intermediate students with higher self-efficacy to come through difficulties performed better in online vocabulary training. It is therefore implied that self-efficacy seems to be a universal construct that yields meaningful relations with Japanese EFL learners' performance on e-learning and online tests.

Keywords: self-efficacy, e-learning, online testing, EFL learners

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1. Introduction

1.1 Self-efficacy

The focus of this study is self-efficacy. Self-efficacy is defined as "beliefs in one's capabilities to organize and execute courses of action required to manage prospective situations" (Bandura, 1995, p.2). Put simply, it is a person's "I can" or "I cannot" beliefs. Unlike self-esteem, which reflects how people feel about their worth, self-efficacy reflects how confident they are about performing specific tasks. It should be noted that high self-efficacy in one area may not coincide with high self-efficacy in another area. Bandura (ibid. p. 2) suggests that self-efficacy beliefs influence how people think, feel, motivate themselves, and act.

According to Bandura (1994), people's self-efficacy beliefs can be developed by four main sources of influence. These are mastery experiences (performance accomplishments), vicarious experiences provided by social models, social persuasions and physiological factors. Firstly, mastery experience is assumed to be most influential among them. He suggests that successes build a robust belief in one's personal efficacy while failures undermine it. Secondly, various experiences provided by social models, such as seeing people similar to oneself succeed by continuous effort raises observers' beliefs that they too possess the capabilities to master comparable activities required to succeed. On the other hand, observing others' fail despite high effort lowers observers' judgments of their own efficacy and undermines their efforts. Thirdly, self-efficacy is also influenced by social persuasions such as encouragement and discouragement from others. People who are persuaded verbally that they can master given activities tend to make great effort and sustain it. People who have been negatively persuaded, however, tend to harbor self-doubts and avoid challenging activities and trying hard to succeed. Fourthly, physiological factors, such as anxiety, agitation, fatigue, and pain are also influential. People tend to interpret their stress reactions and tension as signs of sensitivity to poor performance.

According to Pajares (1997), self-efficacy have been found related to clinical problems such as phobias, addiction, depression, social skills, assertiveness; to stress in a variety of contexts; to smoking behavior; to pain control; to health; and to athletic performance. It has also received increasing attention in educational research. Researchers in this area have reported that students' self-efficacy beliefs are correlated with their academic performances and achievement (e.g., Bong & Skaalvid, 2003). It is also suggested that self-efficacy beliefs are correlated with other motivational constructs such as goal setting, problem solving, test and domain-specific anxiety, self-regulation, social comparisons, and strategy training. However, much uncertainty still exists about self-efficacy in second/foreign language learning.

Self-efficacy is usually considered task specific. Some researchers, however, have conceptualized a generalized sense of self-efficacy that refers to a broad and stable sense of personal competence to deal effectively with a variety of stressful circumstances (Schwarzer & Jerusalem, 1995). General self-efficacy (GSE) reflects a generalized belief that we will be successful at whatever challenges or tasks we might face. GSE may explain a broader range of human behaviors and coping outcomes when the context is less specific (Luszczynska et. al., 2005).

1.2 E-Learning

In this article, e-learning is defined as learning that is supported by information and communication technology (ICT). ICT has the capacity to improve traditional teaching methods, enrich students' learning experience, and increase the potential impact of learning on performance (Pedro, 2005). E-learning has a significant role in teaching and learning languages at universities across the world. E-learning offers new and alternative ways of teaching and learning. Most universities in Japan now offer classes that use e-learning in some form as an enhancement to face-to-face teaching. Note that e-learning is also called web-based learning, online learning, computer-assisted learning, or Internet-based learning.

1.3 Computer Based Online Testing

Over the years the role of computers in language testing has also been enhanced. Computers have been used to automate scoring, to administer tests, to generate descriptive and interpretative reports of test results, and to take tests. The use of computer-based testing is increasing rapidly. Computer-based testing usually utilize the internet, and thus, it is also called online testing, network-based testing, Internet-based testing, or web-based testing. The use of internet in testing provides test takers with opportunities to self-assess and practice test taking as well.

2. Purpose of the Study

The literature review suggests that self-efficacy is a significant predictor of academic success across subject areas, culture, and gender. This paper will focus on Japanese EFL learners' general self-efficacy (GSE), their use of E-learning and their scores on online English proficiency tests. The purposes of this study are three folds: (1) to assess Japanese EFL university students' GSE, (2) to describe patterns of their reported GSE, and (3) compare the reported GSE, E-learning use, and English proficiency.

3. Method

3.1. Participants

A total of 60 undergraduate students participated in this study. Six students were omitted from the analyses due to missing data of some sort. The sample consisted of 41 male and 13 female students. Based on the results of the placement test which will be described in section 3.4, the students were placed into two different levels of English courses. Their age ranged from 18 to 21 years. The students did not receive any compensation for participating in the study.

3.2. Questionnaire

The GSE scale used in this study includes 10 items. It was originally devised in German and subsequently adapted to 28 languages (Schwarzer & Jerusalem, 1995). The present study used Japanese Adaptation of the General Self-Efficacy Scale (Ito, Schwarzer, & Jerusalem, 2005). Assessment of GSE is usually conducted with four-point Likert-type scale. The assessment in this study however, used a seven point

Likert-type scale to ask respondents for the level of agreement in order to increase reliability of statistical analysis of its results. The respondents were asked to read each item and then to indicate a response ranging from *I never think so* (1) to *I often think so* (7). All the items and response options are written in Japanese to avoid any problems Japanese EFL learners could encounter understanding the items and response options. The participants completed the questionnaire in class in 10 minutes under the supervision of the regular class instructor.

3.3. E-learning Courses

The e-learning courses examined in the present study, Net Academy 2, were made accessible to all the undergraduate students throughout the day. The courses of Net Academy 2 examined in this study were 1) vocabulary, 2) grammar, 3) listening, 4) reading, and 5) dictation training.

The participants studied with the training courses in class and out of class. The e-learning system made it possible for the students to practice their English skills at their own pace, to self-assess their language skills, monitor and evaluate their performances on each course, and regulate their learning. The system also enabled instructors to examine and manage students' learning.

3.4. Online English Proficiency Tests

The participants took two types of online English proficiency tests. One is a TOEIC (R) Practice Test developed by ALC Press, Inc. TOEIC is a registered trademark of Educational Testing Service (ETS). Questions of the TOEIC Practice Test used in this study were provided by ALC and not approved by ETS. The practice test has two sections: Listening and Reading.

The other online test is CASEC (Computerized Assessment System for English Communication) developed by the Society for Teaching English Proficiency, Inc (STEP). In 2000, The Japan Institute for Educational Management, Inc. (JIEM) became independent from STEP and took over the development and management of CASEC. Currently, CASEC is one of the largest computerized adaptive test in Japan. The CASEC consists of a total of 55 items divided into four sections . The four sections assess 1) vocabulary knowledge, 2) knowledge of phrasal expressions and usage, 3) listening proficiency to understand the main idea, and 4) listening proficiency to understand specific information.

The tests were given during class time. All participants test results were saved digitally online and are accessible anytime, anywhere and from any device to the participants and their instructors. Note that all participants took CASEC as a placement test at least three times, in April, July, January, of the first year. Note that new academic year starts in April in Japan. Many students took more than four times because they were entitled to take CASEC without a fee once a week.

3.5. Data Analysis

Data analysis was conducted with respect to the objectives set for this study. IBM SPSS Statistics version 21.0 was used for descriptive statistics, Cronbach's alpha coefficients, factor analyses, t-tests, and Pearson correlations. Data used in this study were the students' responses on the 10-item questionnaire, their study records on the e-learning courses, and their scores of the online tests.

4. Results and Discussion

4.1 Results of Descriptive Analyses

4.1.1 Gender Effects

To examine and describe Japanese EFL university students' GSE, descriptive analysis was conducted. The results stratified by gender are summarized in Table 1. Regarding male students, Item 2 yielded the highest mean (5.02), while Item 5 the lowest (3.51). Regarding female students, Item 6 and 8 yielded the highest mean (4.23), while Item 5 the lowest (2.92). Interestingly, both males and females had the lowest mean scores for Item 5, *Thanks to my resourcefulness, I know how to handle unforeseen situations*. These results are consistent with data described in Scholz et al. (2002). The comparison with other nations' GSE (ibid, 244-245), however, reveals that this tendency is not universal at all and possibly specific to Japanese.

Why did the Japanese students report to have low self-efficacy in their resourcefulness? One reason why Item 5 yielded the lowest mean scores is that the Japanese version of Item 5 (Ito, Schwarzer, & Jerusalem, 2005) contains praises. The phrase "thanks to my resourcefulness" was translated as "*watashi wa sairyaku ni taketeiru node*" which means "since I have excellent wisdom and tactics." The phrase "*sairyaku ni takeru*" is usually used for others to praise them, and hardly used for yourself. If it is used for yourself, it sounds like either a joke or self-praise which is usually avoided in Japanese society. As pointed out in Davies & Ikeno (2002), modesty or humility is one of the most important aspects of proper behavior in Japan, and self-assertiveness is more or less discouraged. It can therefore be assumed that the many Japanese respondents to GSE scale avoided answering "I often/sometimes/occasionally think so" to Japanese version of Item 5 because it sounded like self-praise.

Table 1

Japanese EFL learners' GSE Mean Scores Stratified by Gender

GSE Items	Gender	M	SD
1. I can always manage to solve difficult problems if I try hard enough.	M	4.54	1.72
	F	4.08	1.12
2. If someone opposes me, I can find the means and ways to get what I want.	M	5.02*	1.56
	F	4.00*	1.15
3. It is easy for me to stick to my aims and accomplish my goals.	M	4.20	1.56
	F	3.31	1.11
4. I am confident that I could deal efficiently with unexpected events.	M	3.88	1.66
	F	3.46	1.45
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	M	3.51	1.57
	F	2.92	1.26
6. I can solve most problems if I invest the necessary effort.	M	4.66	1.51
	F	4.23	1.48
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	M	3.95	1.61
	F	3.38	1.45
8. When I am confronted with a problem, I can usually find several solutions.	M	4.32	1.51
	F	4.23	1.42
9. If I am in trouble, I can usually think of a solution.	M	3.93	1.35
	F	3.62	0.87
10. I can usually handle whatever comes my way.	M	3.88	1.40
	F	3.77	0.93

*Statistically significant difference ($p < .05$) between males and females.

Another point to note is that Japanese men reported to have slightly stronger GSE than Japanese women. Regarding all the 10 efficacy items, male students scored higher than female students. The overall GSE mean score for the male students (4.19) was higher than that for female students (3.70). Independent-samples t-tests revealed that only Item 2 showed a statistically significant difference by gender ($t(52)=2.18$, $p= .034$). Item 2 says *if someone opposes me, I can find the means and ways to get what I want*; thus, it is assumed that those who chose higher response options for Item 2 had greater fortitude and did not hesitate to show it. In other words, Japanese men reported to have greater fortitude than Japanese females did.

4.1.2 Proficiency Effect

Figure 1. shows the results of the effect of proficiency on Japanese GSE scores. Advanced learners scored higher on Item 4,6,8. Independent-samples t-tests revealed no significant difference. The largest difference between advanced (4.03) and intermediate (3.48) learners were found on Item 4 which says *I am confident that I could deal efficiently with unexpected events*.
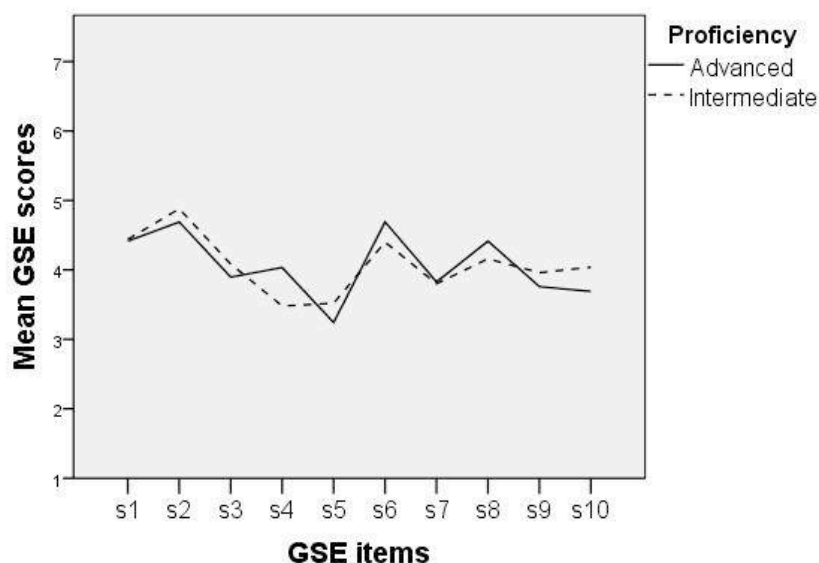
Figure 1: Japanese EFL learners' GSE Mean Scores Stratified by Proficiency

4.2 Results of Factor Analysis

In factor analysis common factors are shown to be responsible for the covariation among a set of measured variables. To extract common factors possibly affecting Japanese EFL learners' perceived GSE, exploratory factor analyses were conducted on the responses to the GSE questionnaire survey. It should be noted that, before the first analysis, normality for the responses for each item was tested by examining each histogram. As a result, no items showed floor or ceiling effect; thus, all items were examined in the following analyses.

For the first factor analysis, the principle factor method was used without rotation because the sample size in this study was small and thus the method seemed to maximize interpretation compared to the results of other methods. In this analysis, 2 factors having an eigen value greater than one were retained. Therefore, the second analysis was conducted requesting two factors. The Cronbach's coefficient alpha for each factor was .89 and .66 respectively. The principle factor method with Varimax rotation was used.

Factor 1 has a subset of seven GSE items with high loadings (Item 7, 10, 5, 4, 8, 9, 6) as shown in Table 2. The rotated factor loadings, which represent both how the items are weighted for each factor and the correlation between the items and the factor, are also shown in Table 2. As the table shows, all the seven items imply confidence to come through a difficulty (s)he might face.   Therefore, Factor 1 was labeled Confidence *to come through difficulties.*

Table 2 also shows the items which highly loaded on Factor 2. The point to observe is that Item 3 with the highest loading (.731) and Item 2 with the second highest loading (.563) imply confidence to reach a goal, and that the items which highly loaded on Factor 1 do not contain words related to a goal and achievement. Therefore, Factor 2 was labeled *Confidence to achieve goals.*

Table 2

The Factors extracted and their Rotated Factor Loadings

Factor 1: **Confidence to come through difficulties**	*1*	*2*
7. I can remain calm when facing difficulties because I can rely on my coping abilities.	.807	.062
10. I can usually handle whatever comes my way.	.747	.228
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.	.696	.416
4. I am confident that I could deal efficiently with unexpected events.	.679	.314
8. When I am confronted with a problem, I can usually find several solutions.	.675	.400
9. If I am in trouble, I can usually think of a solution.	.649	.210
6. I can solve most problems if I invest the necessary effort.	.526	.376
Factor 2: **Confidence to achieve goals**	*1*	*2*
3. It is easy for me to stick to my aims and accomplish my goals.	.079	.731
2. If someone opposes me, I can find the means and ways to get what I want.	.245	.563
1. I can always manage to solve difficult problems if I try hard enough.	.341	.518

4.3 General Self-Efficacy, E-Learning, and Online Tests

The relationships between the factors shown in Table 2 and the students' performances on e-learning courses and online tests were examined using Pearson's correlation tests. The results are summarized in Table 3. The variables in e-learning showing no significant relationships, such as grammar, listening, reading, and dictation training courses, were removed from the table to make it easy to read.

Table 3

Results of Pearson's Correlation Tests Stratified by Proficiency

Proficiency	Factors	Variables					
		V	TL	TR	C1	C2	C3
Advanced	Factor 1	.142	.100	.284	.370*	.182	.260
	Factor 2	-.095	.402*	-.038	.093	.073	.133
Intermediate	Factor 1	.464 *	.264	-.192	-.423*	.086	-.155
	Factor 2	-.094	.441	-.330	.042	-.430*	-.353

*Significant at $p < 0.05$.
V= vocabulary training; TL=TOEIC listening; TR=TOEIC reading; C1=1st CASEC; C2=2nd CASEC; C3=3rd CASEC.

Regarding the advanced learners, Factor 1 *Confidence to come through difficulties* has a positive relationship with the first CASEC scores, and Factor 2 *Confidence to achieve goals* has a positive correlation with TOEIC listening practice test scores. Regarding the intermediate learners, a positive relationship was found only between Factor 1 and the performance on online vocabulary training course.

Surprisingly, the first and second CASEC test scores of the intermediate learners are negatively correlated with Factor 1 or Factor 2.

The mild positive correlation between Factor 1 and the first CASEC scores found with advanced students may help us understand how the EFL learners felt and acted when they took the CASEC test for the first time. As described above, Factor 1 has to do with *confidence to come through difficulties*. Therefore, the correlation suggests that those who selected higher response options to the GSE items concerning confidence to come through difficulties performed better at the first CASEC test which was taken place at the beginning of the first year at university. The second or the third CASEC test scores, however, showed no correlation to Factor 1 or Factor 2. It is possible, therefore, that the first CASEC test was a "difficulty" or an "unexpected event" to the EFL university students in this study. It was probably the first computer-assisted online English test to take in their lives. By the time of the second and third CASEC tests, however, the students enriched their experience and became skilled in computer use, computer-assisted learning, and online tests. This combination of findings indicates that self-efficacy to handle difficulties or unexpected situations is partly responsible for determining how well a person can perform on unfamiliar tasks in their academic career.

Another point to note is that GSE affected advanced and intermediate learners differently in terms of online test scores. Regarding the intermediate learners, Factor 1 and Factor 2 showed strong negative correlations with the CASEC test scores. In other words, those intermediate learners with high GSE scored lower on the online tests. These results may be due to a small sample size in this study. Or, they suggest that GSE can predict academic performance and achievement only when the subjects are advanced students. Or, this inconsistency may imply that GSE beliefs are unlikely to determine most aspects of our academic career. This question remains unanswered at present.

If we now turn to the relationship between GSE and e-learning, it is noteworthy that the intermediate students who reported to have confidence to come through difficulties worked harder and gained more points on online vocabulary training. It is therefore likely that such relationship exist between self-efficacy to get over difficulties and performance on a certain type of e-learning.

Taken together, these findings suggest the importance of self-efficacy for Japanese EFL learners in their academic career. Low self-efficacy to get over difficulties or achieve goals could have negative impact on their academic performance and achievement. These findings have important implications for teachers and classroom instructions. For instance, teachers could be advised to figure out how to give their students mastery experiences (performance accomplishments) and vicarious experiences to build up their self-efficacy. Students also need positive persuasions from their teachers to strengthen their self-efficacy. Teachers also need to pay attention to students physiological condition, especially anxiety in class, so that they could prevent their students from undermining their self-efficacy beliefs and harboring self-doubts.

5. Conclusion

The present study was designed 1) to assess Japanese EFL university students' general self-efficacy (GSE) using a questionnaire, 2) to describe the patterns of the reported GSE, and (3) to examine the relationships between the reported GSE and the students' performance on e-learning courses and online English tests. Descriptive statistics revealed the followings:

1. Japanese men and women both had the lowest mean scores on Item 5, *Thanks to my resourcefulness, I know how to handle unforeseen situations*.
2. Japanese men reported to have slightly stronger GSE than Japanese women. Men scored higher than women on all the GSE items, but the difference was not significant excluding Item 2 which says *if someone opposes me, I can find the means and ways to get what I want*.
3. Advanced learners scored higher on Item 4,6,8, but the difference was not significant. The largest difference between advanced and intermediate learners were found on Item 4 which says *I am confident that I could deal efficiently with unexpected events*.

In the factor analysis, two factors were extracted to explain the Japanese EFL learners' reported GSE:

1. Confidence to come through difficulties
2. Confidence to achieve goals

Furthermore, the investigation on the relationships between Japanese GSE and online English tests, this study demonstrated that Factor 1 had a moderate significant positive correlation with the CASEC scores, regarding advanced students. In other words, those advanced learners who reported to have higher self-efficacy to come through difficulties could gain higher scores on the CASEC test which was taken place at the beginning of the first year at university. In addition, this study demonstrated that Factor 2 *Confidence to achieve goals* had a positive correlation with the scores of the listening section in a TOEIC practice test. Interestingly, the results of this study indicated that the intermediate students were influenced by GSE in the opposite direction. The higher general self-efficacy the students had, the worse performance they provided on online tests.

The analysis on the relationships between GSE and e-learning revealed that the intermediate students who reported to have confidence to come through difficulties worked harder and gained more points on online vocabulary training. Other training courses (grammar, dictation, etc.), however, showed no significant correlations.

These findings hopefully enhance our understanding of self-efficacy. The empirical findings in this study could contribute to existing knowledge of self-efficacy in education by providing a new understanding of EFL learner's performances on e-learning and online tests in the light of self-efficacy. The present study, however, was limited by small sample size. Further work needs to be done with larger samples to examine when and how GSE affects language learners. Moreover, a future study devising a questionnaire with more task specific self-efficacy items for EFL learners would be interesting.

Considerably more work will need to be done to connect research and practice. Teachers and curriculum developers could improve the quality of education by recognizing the importance of self-efficacy beliefs as determinants of performance. Understanding the sources of self-efficacy and devising strategies to strengthen students' self-efficacy is also advantageous to teachers and curriculum developers. This would definitely be a fruitful area for further work.

Acknowledgements

References

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191–215.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), Encyclopedia of human behavior (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], Encyclopedia of mental health. San Diego: Academic Press, 1998).

Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In A. Bandura (Ed.), Self-efficacy in changing societies. (pp. 1–45). Cambridge University Press. Retrieved from http://search.ebscohost.com/login.aspx?direct=true &db=psyh&AN=1995-98092-001&site=ehost-live&scope=site

Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really?. Educational psychology review, 15(1), 1-40.

Chularut, P., & DeBacker, T. K. (2004). The influence of concept mapping on achievement, self-regulation, and self-efficacy in students of English as a second language. Contemporary Educational Psychology, 29(3), 248-263.

Clement, R., & Noels, K. a. (1994). Motivation, Self-Confidence, and Group Cohesion in the Foreign Language Classroom. Language Learning, 44(3), 417–448. http://doi.org/10.1111/j.1467-1770.1994.tb01113.x

Davies, R. J., & Ikeno, O. (Eds.). (2002). The Japanese mind: understanding contemporary Japanese culture. Tuttle Publishing.

Ito, K., Schwarzer, R. & Jerusalem, M. (2005). *J*apanese Adaptation of the General Self Efficacy Scale, Retrieved from http://www.library.macewan.ca/library-search/detailed-view/pst/9999-11413-000?query=%28Life%29

Luszczynska, A., Scholz, U., & Schwarzer, R. (2005). The general self-efficacy scale: Multicultural validation studies. The Journal of psychology, 139(5), 439-457.

Magogwe, J. M., & Oliver, R. (2007). The relationship between language learning strategies, proficiency, age and self-efficacy beliefs: A study of language learners in Botswana. System, 35(3), 338–352. http://doi.org/10.1016/j.system.2007.01.003

Pajares, F. (1997). Current directions in self-efficacy research. Advances in motivation and achievement, 10(149), 21-40.

Pajares, F., & Schunk, D. H. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. Perception, 11, 239-266.

Pedro, F. (2005). Comparing traditional and ICT-enriched university teaching methods: Evidence from two empirical studies. Higher Education in Europe, 30(3-4), 399-411.

Scholz, U., Gutiérrez-Doña, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. European Journal of Psychological Assessment, 18(3), 242-251.

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), Measures in health psychology: A user's portfolio. Causal and control beliefs (pp. 35–37). Windsor, England: NFER-NELSON.

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The Schooling Experience of Exchange Students from China in Taiwan

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Abstract

The purpose of this study was to investigate the subjective schooling experience of exchange students from China in Taiwan. Another aim was to find out an appropriate support channels for prospective exchange students from China and the findings can further help university administrative staffs with policy-making and resource-providing that address the needs of exchange students.

Phenomenological orientation was adopted in the research. Data analysis followed the approach of phenomenological content analysis. The results were as followings: 1. There are four factors of motivation and expectation for coming to Taiwan, including enriching their academic knowledge, curiosity about Taiwan, significant others and interpersonal support, and promoting independent living skills. The worries or concerns before coming to Taiwan were high relevant to the pressure from duration of their studies in Taiwan and life adjustment. 2. The schooling experience had five phases, adapting the new environment, increasing academic knowledge, limited interpersonal relationship, a lack of time for travel, and unclear political status. 3. The adjustment issues they encountered included academic life, social life, and execution level for travel. The difficulties in academic and social life especially had greater impact on them. 4. The gains of studying in Taiwan included academic growth, fostering positive interpersonal relationship, multicultural immersion, and developing independent life skills. Their expectation placed more emphasis on their academic achievement.

In brief, academic performance and social life were two major importance of exchange students' schooling experience. Further suggestions based upon the research findings were addressed as regards future research.

Keywords: exchange students, schooling experience, adjustment, phenomenology

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Introduction

The straits exchange between China and Taiwan has become intricately interwoven recently. No matter what in the economic, political, social, cultural, or academic education, they have frequent and diverse interaction. Besides, the improvement of political atmosphere also provides more flexible interactional space (Huang, 2009).

Exchange students are the common way for educational exchange in higher education. Exchange students are the mainstream educational trend in Taiwan nowadays. The majority of overseas study countries are the U.S.A and England which are taken by sixty percent of total foreigner exchange student students (Ministry of Education, 2010). Taiwan and China have the same advantages in culture and geography aspects. However, the policies of educational exchanges of cross-trait are not intimately related as the policy in U.S.A and England. The reason cause this phenomenon is because the policies of educational exchanges are affected by the cross-trait atmosphere and degree certification.

With the development of cross-trait exchanges, Ministry of Education actively sets cross-trait academic education exchange into act, trying to adjust exchange policy. In 2008, the Ministry of Education bring the enforcement rule that "China students come to Taiwan for studying" into law. Based on the, the China students can apply for educational exchange by exchanging students or short-term further study. The number of cross-trait exchanging students has been increased to many times as compared with previous years.

To investigate the related literature in Taiwan, there are eight studies concerning about China exchanging students (Chiang, 2010; Chiang, 2010; Han, 2011; Keo, 2011; Lin, 2007; Lin, 2010; Lin, 2011; Lin, 2012). The research topic can be divided into two sections. The one is to investigate the internal reasons for China exchange students. For example, the reasons why they are willing to study in Taiwan, the satisfaction of school's life and new conditional adaption. The other one is the policy evaluation of China students. As shown in the literature review, existing research in China exchange students has ignored the role of the studying process of China exchange students. Hence, in order to fill the gap in our knowledge, this study investigated not only the probable existence of potential studying process in students learning development, but their learning mental journey in Taiwan.

Methodology

The study employed a qualitative approach to gain an in-depth and holistic understanding of exchange students' learning process. This study adapts the methodology "phenomenology", trying to understand the phenomenal field for exchange students and their perspective of their subjective opinions, feelings and internal adaptions.

The subjects who volunteered to take part in the study were three China exchange students applied for short-term study. Before interviewing, all the participants had over three month learning experience in Taiwan. At the same time, before conducting the interview, the researcher illustrated the interview process, signed the research inform consent and followed the confidential principles.

All the descriptive data in this present study are based on Hycner's (1985) phenomenological content analysis. Through Hycner's framework, the researcher tries to find not only the cross-case categories and topics, but also the descriptions of China students' learning experience. In order to ensure the reliability of this study, this present study was based on Lincoln and Guba's study (as cited in Niew, 2006). They provided four reliability criterions: credibility, transferability, dependability and confirmability.

Results

According to the three participants' schooling experience, the results can be divided into four categories. First, China exchange students' expectation and motivation. The first category can be further divide to four subcategories. The first one is increasing academic and research knowledge. In that, China students hope they could learn more recent academic knowledge and research concepts to improve their academic research ability. The second subcategory is the curiosity about Taiwan. China students hope they could have more opportunities to contact with scenery and local customs and practices in Taiwan. Significant others and interpersonal support. Supported by China students' family and other China students who studying in Taiwan, they promise take care with each other. Helping with each other cause a lot of China students to study in Taiwan. The last subcategory is promoting independent living skills.

The second result shows that the schooling experience includes not only diversified but also identical elements. The elements can be divided into five aspects. First. The re-adaption of city surroundings. When the China students come to Taiwan, they need to find the basic life needs quickly to get with surroundings. Second. Increasing the academic knowledge. Three participants learned new knowledge and use their knowledge on their own. The new academic knowledge has become the common harvests in their studies' aspect. Third. Limit interpersonal relationship. China students interact with roommate, Taiwan classmates and teachers, lacking of the interactional resources. Fourth. The time is insufficient for China students to travel in Taiwan. Three participants have a lot of academic pressure so that they hardly have time to take a trip in Taiwan. Fifth. Due to the unclear political status, it is hard for China students to adapt the new environment.

The adjustment issues the China students encountered included three parts. The first one is academic life. Participants hoped they can learn more academic knowledge so that they overload the courses. Because they have high self-disciplined, they have a lot of learning pressure. The second one is the social life. Limit interpersonal relationships cause them to feel unfriendly when they face to Taiwanese. The third one is low level of execution for travel. They have heavy pressure from studying, so they seldom have time to travel. To sum up, academic life and interpersonal relationship have big impact on exchange students. In order to deal with the difficulties they encountered in their life, they do the self-adjustment to find the solutions. However, the external resources are insufficient.

The gains of China students' studying in Taiwan can be divided into four dimensions. First. Academic growth. China students still gain a lot of new knowledge when they are filled with pressure. Second. Foresting positive interpersonal relationship.

The majority of China students can feel passion, kindness, low competition, sense of trust and high human quality from Taiwanese. Lin (2011) pointed out that positive interpersonal relationship as a social support for China students. Social support has influence on overseas adaptation ability (Huang, Chung, Weng, & Chang, 2005). Third. Multicultural immersion. China students have observed the local customs and practices differences between China and Taiwan. They felt sense of fulfillment and self-reflection through contacting Multiculture. The final one is developing independent life.

Discussions and Recommendations

The results find out that China exchange students can be integrated into a diagram (Figure 1), a diagram for China exchange students schooling experience. From figure 1, we can see that academic performance and social life were two major importance of exchange students' schooling experience.

There are four recommendations for future study. First, research variables could include different graders, trying to understand whether China exchange students have the unique or common experience under the grade variable. Second, this study can bring into policy changing. Detention period have effect on China exchange students' schooling experience. Besides, the researcher also recommended school administration could be taken into consideration. First. Planning China exchange students' activities, helping them broaden their interpersonal horizon. Second. Providing learning assistance with focus on the China cultural backgrounds knowledge. Third. Provide professional assist gateway with China exchange students to solve their problems in time. Fourth. Providing explicit exchange method. The students get familiar with their right and responsibility.
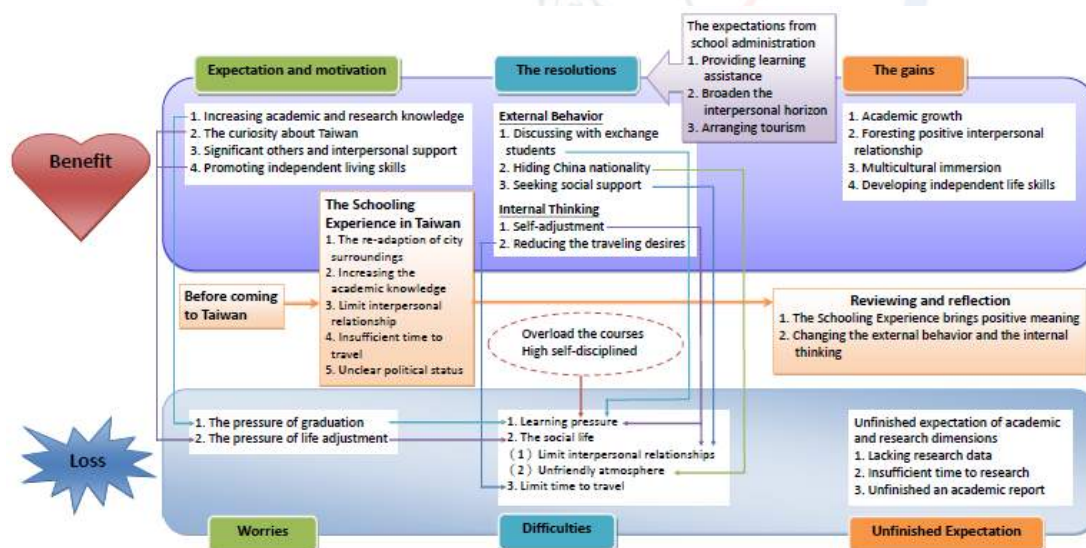
Figure 1: The schooling experience of exchange students from China in Taiwan.

References

Chiang, H. Y. (2010). Using AHP on the Determinants of China's Students to Study in Taiwan. *East-Asia Review, 470,* 75-89.

Chiang, Y. L. (2010). *Mainland exchange students' attitude towards Taiwan Open Policy in allowing mainland students study in Taiwan universities* (Unpublished master's thesis). National Chengchi University, Taipei.

Han, J. Y. (2011). *The Learning Motivation and the Adjustment of Students from China in Taiwan* (Unpublished master's thesis). National Taiwan Normal University, Taipei.

Huang, C. I., Chung, Y. A., Weng, C. L., & Chang, C. W. (2005). An Inquiry into the Relationship between Overseas Adjustments and Life Satisfaction of International Exchange Students: Social Support as an Antecedent Variable. *Sun Yat-Sen Management Review, 13*(4), 959-981.

Huang, F. Y. (2009). Cooperation Opportunity for Higher Technical Education on Both Sides of Taiwan Straight Under the New Situation. *Journal of Beijing Union University (Humanities and Social Sciences), 7*(1), 114-118.

Hycner, R. H. (1985). Some guidelines for the phenomenological analysis of interview data. *Human Studies, 8*, 279-303.

Keo, H. H. (2011). *The Cross-strait Civic Course: The Taiwan Experiences of Exchange Students from China* (Unpublished master's thesis). National Taiwan University, Taipei.

Lin, C. C. (2011). *The Study on Mainland Chinese Student's Satisfaction in Exchange Program in Taiwan --- The Case of National Taiwan University and I-Shou University* (Unpublished master's thesis). National Taiwan University, Taipei.

Lin, D. Y. (2010). *The Cross-Cultural Adjustment and Satisfaction for Mainland China Students of Colleges and Universities of Technology in Taiwan* (Unpublished master's thesis). National Taiwan Normal University, Taipei.

Lin, F. Y. (2007). *A Study on Mainland Chinese University Students' Decision and Intention of Selecting Universities in Taiwan* (Unpublished master's thesis). Dayeh University, Changhua.

Lin, L. W. (2012). *The study of cognitive effects of the short-term exchange students from mainland to Taiwan* (Unpublished master's thesis). Tamkang University, New Taipei City.

Ministry of Education (2010, May 1). The Republic of China Education Statistics-2010 Edition. Retrieved from http://www.edu.tw/statistics/content.aspx?site_content_sn=8169

Niew, I. W. (2006). *Educational research methods and thesis writing*. Taipei: Yeh Yeh Book Gallery.

The Effects of Association and Emotion in False Memory

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Abstract

The purpose of this study was to discuss the effects of association and emotion in false memory by using a DRM paradigm procedure. This study employed a 3 (association: semantic association vs. category association vs. neighborhood association) × 3 (emotion: positive vs. neutral vs. negative) mixed design, to examine the effects of association and emotion on (1) the recognition of original-list-items, and (2) the false recognition of critical-lures-items with same association with the original-list-items and noncritical-lure-items without association with the original-list-items.

The major findings of the study are: First, all groups showed significant recognitions of original-list-items. Second, for the effect of association in false memory, subjects of the neighborhood association group and the semantic association group showed significant false memories on the critical-lure-items, yet those of the category association group did not. Third, for the effect of emotion in false memory, subjects showed significant false memories on the positive critical-lure-items and the neutral critical-lure-items, but not on the negative critical-lure-items. Forth, all groups showed no false memories on the noncritical-lure-items.

Keywords: false memory, association, motion

Introduction

False memory is the psychological phenomena that a person recalls a memory that did not actually occur (Roediger & McDermott, 1995). The phenomenon is common in witness testimony (Loftus, 1979). A witness's false memory can result in misidentification of a suspects and wrongful sentence in court. Bartlett (1932) conducted the classic experiment, the 'War of the Ghosts'. In his experiment, a participant would read a story in an exotic cultural setting and then be asked to recall the content. The results showed that participants would construct the story according to their existing schemata rather than the given information.

Researches on false memory have been widely investigated since the 90s. Roediger and McDermott (1995) developed the Deese-Roediger-McDermott (DRM) paradigm. In their study, they selected words from the semantic association database as material. There were 24 study lists of 15 highly related words. The experiment session included two phases, learning and testing phase. In the learning phase, participant would hear the study lists displaying in the frequency of 1.5 seconds per word. Following the learning phase, a participant would do a recall task and a recognition task in the testing phase, adding one semantically related target word as lure for each list. The result showed a high false recognition rate on the target word. Most participants claimed to recognize those words which they never studied.

Semantic associates are common material in false memory researches (Deese, 1959; Gallo, Roberts, & Seamon, 1997; Robinson & Roediger, 1997; Roediger & McDermott, 1995; Roediger, Watson, McDermott, & Gallo, 2001). Beside, category associated words (Brainerd, Reyna, & Brandse, 1995; Dewhurst, 2001; Dewhurst & Anderson, 1999; Hintzman, 1988; Seamon, Luo, Schlegel, Greene, & Goldenberg, 2000) and phonological neighborhoods can also induce false memory (Schacter, Verfaellie, & Anes, 1997; Watson, Balota & Roediger, 2003; Watson, Balota & Sergent-Marshall, 2001). Hintzman (1988) adopted category associated words as material. He created word lists for each distinct category. For example, he would categorize jackets, shirts, and dresses in a list. A participant would learn randomly selected words from part of a list, followed by a recognition task including the whole list. Participants would falsely report that they recognized words which were not presented. In terms of phonological neighborhoods, Schacter, Verfaellie, and Anes (1997) used words with phonological similarities as material, such as target word 'fate' and its neighbors 'fame', 'face', 'fake', 'late', 'date' and 'rate'. The results showed high false recognition rates despite the fact that the target words had never been studied.

Beside conceptual and lexical elements, emotional content can also modulate false memory. When asked to recall an event, we report not only the factual information but also its effect on our emotions and personal opinions. The emotional content could enforce memory consolidation; however, it could induce false memory. Sharkawy, Groth, Vetter, Beraldi, & Fast (2008) and Brainerd, Stein, Silveira, Rohenkohl, & Reyna (2008) had separately conducted experiments on word-based emotion and false memory with consistent results. They created lists based on emotion and semantic associations. Participants prone to form false memory on negative target words than neutral targets.

Pesta, Murphy, and Sanders (2001) studied false recognition of emotional and neutral words. Their results demonstrated that participants form false memory on both false alarms to emotional words were lower than neutral lure. The distinctiveness of emotional targets in a neutral word list reduces false recognition. Therefore the high false alarm to emotional targets in Sharkawy's and Brainerd's studies might result from the low distinctiveness of the semantically congruent word lists and targets.

Lexical elements and emotional content can also modulate false memory; however, there are no existing studies on clarifying how these two factors generate false memory. The current study aims to investigate the interaction between emotion (positive, neutral, negative) and lexical association (semantic, categorical, neighborhood) on false memory.

Method

The current experiment is a 3×3 mixed design; three lexical association factors (semantic, categorical, neighborhood) are between subject conditions and three emotion factors (positive, neutral, negative) are within subject design. We created 12 word lists for each lexical association conditions, thus in sum, there will be 36 lists. Each list includes one target word and 12 studying words.

We recruited 96 postgraduate and undergraduate students for the experiment. Participants were randomly allocated into three groups of 32 subjects. A participant studied the studying word in 6 lists of the assigned condition. After the studying phase, a participant would complete a recognition task, in which a participant would see 60 words. Those words are 12 target words, 4 words from each studied and not presented lists.

Result

Correct Hit Rate of Studied Words Recognition

The results showed no significant difference among within and between subject variables. The average recognition accuracy on studied words was 73%. This indicated that semantic, categorical and neighborhood associations could benefit general word learning and recognition among words inducing positive, neutral and negative emotions.
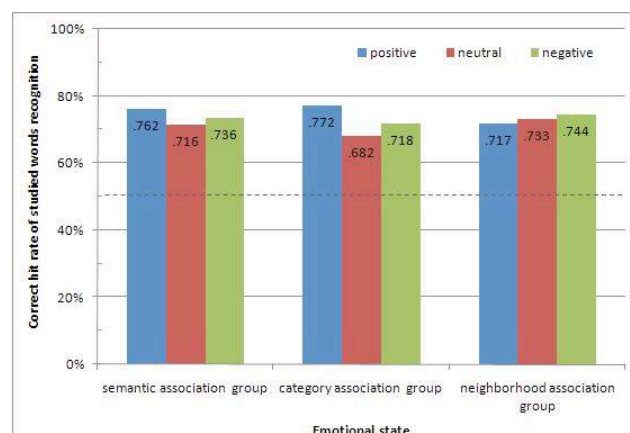
Figure 1: Correct hit rate of studied words recognition
False alarm rate of target words and non-target new words
Effect of lexical association. The result showed that, in Chinese character writing system, participants in the neighborhood and semantic condition generated more false memory than those in the categorical condition. (See Figure 2)
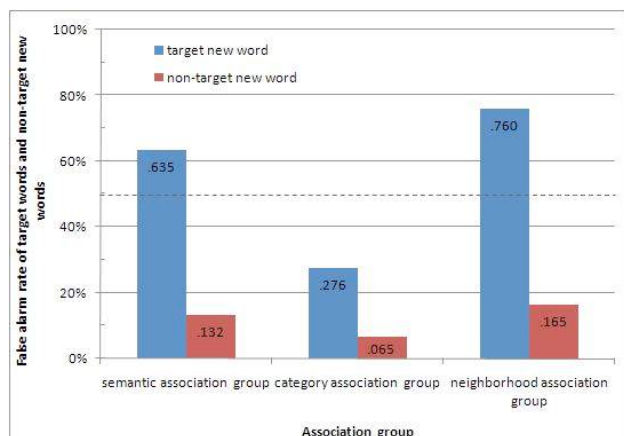
Figure 2: The Interaction Effect of New word types and Association.

Effect of emotion. In neighborhood and semantic conditions, people were prone to generate false memory on neutral and positive target words, comparing to negative words. (See Figure 3)
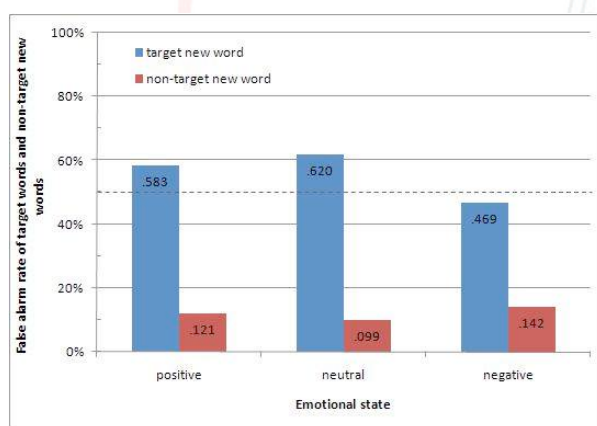
Figure 3: The Interaction Effect of New word types and Emotional State.

Discussions and Suggestions

We didn't find any significant difference in the recognition accuracy of the studied words among three emotion conditions. We suspected that effect of lexical association was stronger than that of emotion, hence this raised the recognition rate of neutral and positive emotional words, resulting in no significant difference across the emotion conditions in the current study. The false recognition rate in neighborhood condition was significantly higher than in semantic condition. Moreover, the false recognition rate in the semantic condition was significantly higher than in categorical condition. Therefore the false memory effect in the neighborhood condition was the strongest. We suggested this finding might related to the writing system of Chinese characters.

Chinese is a logographic language. There are rich ideographical and pictorial components than alphabetic languages, thus the neighborhood condition induced a stronger effect in memory. The result also showed a rather weak effect of categorical association in false memory. The underpinning reason might be the complex cognitive process of concept evaluation and inductive reasoning on category, thus participants couldn't generate gist memory for the studied word lists. False memory results from gist memory, hence the false alarm rate was low in the categorical association condition.

We suggest a few points for other researchers to follow up the current issue. Firstly, the individual difference in word list learning has not been investigated. A within subject design across the association conditions and a free recall task before the recognition task might clarify the adopted strategy. Second, the low false recognition rate in categorical association group would require further investigation. The reason could lay in the individual differences of information structure in memory. We propose a study comparing the performance of two groups implemented with and without memory strategy. Finally, we suggest a further investigation on the relation between false word recognition and the difference between Chinese writing system and alphabetical system. The structure of Chinese words more complicated than that of English, therefore a longer information process might happen to Chinese. We could manipulate the word display length to understand whether display length could be a factor of false memory in words.

References

Bartlett, F. C. (1932). *Remembering: A study in experimental and social psychology.* Cambridge: Cambridge University Press.

Brainerd, C. J., Reyna, V. F., & Brandse, E. (1995). Are children's false memories more persistent than their true memories? *Psychological Science, 6*, 359-364.

Brainerd, C. J., Stein, L. M., Silveira, R. A., Rohenkohl, G., & Reyna, V. F. (2008). How does negative emotion cause false memories? *Psychological Science, 19*, 919-925.

Deese, J. (1959). On the prediction of occurrence of particular verbal intrusions in immediate recall. *Journal of Experimental Psychology, 58*, 17-22.

Dewhurst, S. A. (2001). Category repetition and false recognition: Effects of instance frequency and category size. *Journal of Memory & Language, 44*, 153-167.

Dewhurst, S. A., & Anderson, S. J. (1999). Effects of exact and category repetition in true and false recognition memory. *Memory & Cognition, 27*, 664-673.

Gallo, D. A., Roberts, M. J., & Seamon, J. G. (1997). Remembering words not presented in lists: Can we avoid creating false memories? *Psychonomic Bulletin & Review, 4*, 271-276.

Hintzman, D. L. (1988). Judgments of frequency and recognition memory in a multiple-trace memory model. *Psychological Review, 95*, 528-551.

Loftus, E. F. (1979). *Eyewitness Memory.* Cambridge. MA: Harvard University Press. Pesta, B. J., Murphy, M. D., & Sanders, R. E. (2001). Are emotionally charged lures immune to false memory? *Journal of Experimental Psychology: Learning, Memory, & Cognition, 27*, 328-338.

Robinson, K. J. & Roediger, H. L. III (1997). Associative processes in false recall and false recognition. *Psychological Science, 8*, 231-237.

Roediger, H. L., Watson, J. M., McDermott, K. B., & Gallo, D. A. (2001). Factors that determine false recall: A multiple regression analysis. *Psychonomic Bulletin & Review, 8*, 385-407.

Roediger, H. L. III, & McDermott, K. B. (1995). Creating false memories: Remembering words not presented in lists. *Journal of Experimental Psychology, 21*, 803-814.

Schacter, D. L., Verfaellie, M., & Anes, M. D. (1997). Illusory memories in amnesic patients: Conceptual and perceptual false recognition. *Neuropsychology, 11*, 331-342.

Seamon, J. G., Luo, C. R., Schlegel, S. E., Greene, S. E. & Goldenberg, A. B. (2000). False memory for categorized pictures and words: The category associates procedure

for studying memory errors in children and adults. *Journal of Memory and Language, 42*, 120-146.

Sharkawy, J. E., Groth, K., Vetter, C., Beraldi, A., & Fast, K. (2008). False memories of emotional and neutral. *Behavioural Neurology, 19*, 7–11.

Watson, J. M., Balota, D. A., & Roediger, H. L. III (2003). Creating false memories with hybrid lists of semantic and phonological associates: Over-additive false memories produced by converging associative networks. *Journal of Memory & Language, 49*, 95-118.

Watson, J. M., Balota, D. A., & Sergent-Marshall, S. D. (2001). Semantic, phonological, and hybrid veridical and false memories in healthy older adults and in individuals with dementia of the Alzheimer type. *Neuropsychology, 15*, 254-268.

The "Uncanniness"

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Abstract

The Uncanny Valley is a phenomenon first described by Masahiro Mori in 1970. The theory notes that the more advanced our technology becomes the more similar to us robots become, and this human resemblance unnerves us. Back in the 50's, there were many industrial robots, the kind of robots that do not have a human-like face or legs, or any close resemblance to humans. Those robots just rotated, extended or contracted their arms. They still remain machines with specific functions (Mori 1). On the contrary, "the designer of a toy robot puts importance on a robot's appearance rather than its function; the robot will have a somewhat humanlike appearance with a face, two arms, two legs, and a torso. This design lets children enjoy a sense of familiarity with the humanoid toy" (Mori 1). With the thriving of technology, more machines have programs that make them respond to us like humans, such as iPhone Siri. I would like to compare and contrast the relationship between human and robot by closely studying literature that discusses about this subject, and alone with other theses that concerning technology with human. I would also like to discuss, how the technology has been developed, and has caused humans to act more and more like robots. Lastly, I would like to use some examples from movies, dramas or plays such as Kubrick, Stanley's 2001: A Space Odyssey (1968), and Shakespeare's Coriolanus to venture into the Theory of "The Uncanny Valley".

Keywords: Unease, robotic, uncanny, anxiety, technology

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What is the Uncanny?

1.1   Freud

The essay "The 'Uncanny'" was written by Sigmund Freud in 1919. The essay is a fertile but not exhaustive paper explaining the "uncanny" by first closely studying the German word *unheimlich*. Throughout his essay "uncanny" was used as the English translation of *unheimlich*; the literal translation is "unhomely" (Freud 2; all citations in this section from Freud). In Ernest Jentsch's study of the "uncanny" he presents the fact that people vary, and he puts great emphasis on their sensitivity to the quality of feeling called 'uncanniness' (1). The subject of the "uncanny", according to Freud, undoubtedly belongs to all that is terrible, such as dread and creeping horror (1). Freud first examined the word "uncanny" with Dr. Theodore Reik in different languages, such as Latin, Greek, French, Spanish, Arabic and Hebrew. They found out that in those languages, the word "uncanny" gives a fearful and gruesome impression (2).

Later on, Freud returns to the German Language by carefully studying Daniel Sanders' *Wörterbuch der deutschen Sprache* [Dictionary of the German Language] (1860). He had laid stress on the word *Heimlich*, and found words that share the same root with *Heimlich* (2). According to Gutzkow, "*Heimlich*" means something secret and untrustworthy (3). In general, the word *Heimlich* is not unambiguous; it means 'familiar' and 'congenial', and also 'concealed' and 'kept out of sight' (4).

In order to understand what is "uncanny" and what causes us to feel "uncanny", Freud presents us with numerous examples and stories. "The Sand Man" in Hoffmann's *Nachstücken*, is an example (5). There are two uncanny parts in the story, one is that the strangely silent and motionless girl Olympia turns out to be a wooden doll; the other one is the story that Nathaniel heard of when he was a child: a sand man will come and spread sand in your eyes and take your eyes away (5-7). A study of dreams, myth and phantasies has taught us that a "morbid anxiety" connected with the eye and with the blind is often a formidable substitute for the fear of castration (7). Therefore, the uncanny effect of the Sand Man to a child's [Nathaniel's] fear can be related to "castration-complex", gaining the idea that we could take this "infantile" factor to account for a feeling of "uncanniness" (8). Jentsch believed that an uncanny sensation was created when there was "intellectual uncertainty" about whether an object is alive or not, that is, when an inanimate object becomes too much like an animate one (8-9).

Most stories that make us feel uncanny are concerned with the idea of a "double" or as the Germans refer to it a *Doppelgänger*. According to Otto Rank, the term has to do with the reflections of mirrors, with the shadows, the guardian spirits and with the belief in the "soul" and the fear of "death" (9). The idea of the double does not disappear with the passing of primary narcissism, it becomes our "conscience" and this nourishes us with the illusion of Free Will (10). The double can also become a recurrence, a regression to a time when our ego had not yet become its own entity. The repeated situations, things or events will appeal to us as a source of uncanny feeling because we feel helpless and unfamiliar (11). The reason why we feel helpless is because it is out of ordinary; it appears to us as conflict within natural law.

One of the most uncanny and wide-spread forms of superstition is the dread of the "evil eye", the fearful feeling of a secret intention of harming someone and the concept of animism and the belief in the "omnipotence of thought" (12). "Morbid anxiety" can be the gist of the uncanny feeling, or to use the German expression "an *unheimliches* house" or "a *haunted* house". We are all afraid of death and cadavers, of the return of the dead, and of spirits and ghosts (13). Most of us strongly believe that it's possible for the dead to come back as an enemy and share their new lives with the living, but to the living it generates a feeling of "uncanniness" (14). To many people, the thought of being buried alive while appearing to be dead is the most uncanny feeling of all (14). A lot of men declare that they feel there is something uncanny about the female genital organs, because it brings to mind an uneasy and deeply rooted memory from the day they were born. The deeply rooted memory has to deal with the ideal of us being alive, while we were in our mother's womb and unable to break out; we were trapped inside. That connection is so deep that it is as if it's part of our genes, this creates the uncanny feeling to us when we face the thought of being buried alive. Thus the *unheimlich* place is the entrance to the former *heim* [home] of all human beings. In this case, the *unheimlich* is what was once *heimisch*, familiar and homelike (15).

In the real world, an uncanny experience can be connected with the repressed "infantile complex", "castration complex", and hence darkness can makes us scared (17). In fairy-tales, the world of reality has often been left behind from the very start, therefore in the realm of fiction many things are not uncanny (18). A feeling cannot arise unless there is a conflict of judgment, or a conflict with reality, that's why if the fairy-tales took place in the world of reality they would become uncanny to us (18).

Stories of fiction present a lot more uncanny sensations than real life, because we can use our imagination in stories (19). However, in real life, a sense of uncanniness only occurs in relation to darkness, silence, solitude and death. This can relate to "infantile morbid anxiety" from which most humans have never become quite free since they were at one time in their mother's wombs (20). Masahiro Mori, a Japanese roboticist, further developed Freud's theory of "The Uncanny" in his essay "The Uncanny Valley" which we will discuss in 1.2.

1.2 Mori

The essay "The Uncanny Valley", written by Masahiro Mori, was published in the well-known magazine *Energy* (1970), and is separated into four parts: valley of familiarity, the effects of movement, escape by design and the significance of the uncanny. Let us take a look at the common mathematical function of the form $y = f(x)$ [see the chart below] for which the value of y increases/ decreases continuously with the value of x. This equation can be applied to everything in our daily lives, however the Uncanny Valley does not conform to this equation (Mori 1).
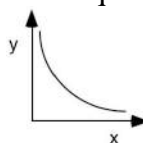
Chart. 1.2-1

Of course, the final goal of the human race's research into the field of robotics is to enable the replacement of ageing bodies/body parts, while retaining that which makes us inherently human, the soul. Through this research scientists may be able to guarantee the goal of everlasting life, which is why we make an effort to build humanlike robots. At this point, we are acutely aware of any details that are different from the real human hand (2). Furthermore, for all creatures, including robots, movement is generally a sign of life. For moving creatures or moveable prosthetic hands the valley gets deeper, and the whole Uncanny Valley chart becomes much more dramatic (3).

To avoid this confusing and uncomfortable feeling, we can have artists design prosthetic hands with wood instead of trying to achieve the exact likeness of a real human hand. Another example we can draw upon is a glass eye. A healthy person is at the top of the second peak. As we die, we fall into the trough of the Uncanny Valley; our body becomes cold and the color changes [see the chart in the next page]. Mori asked himself "Why do we humans have such a feeling of strangeness? Is this necessary?" It may be important to our self-preservation (4).
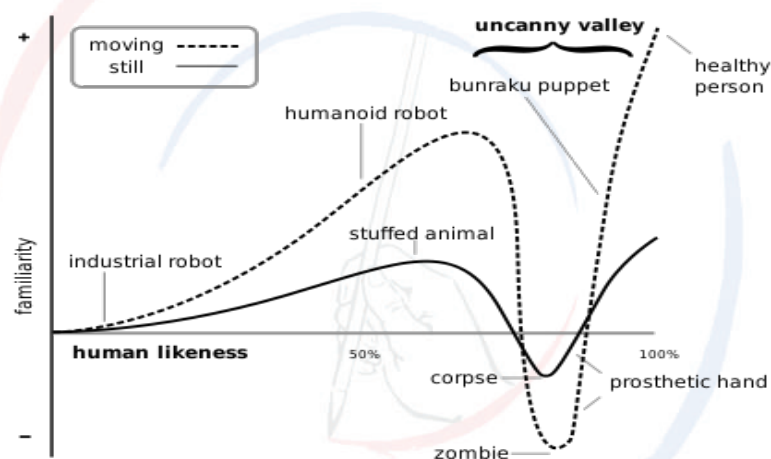
Chart. 1.2-2

The demonstration of the 'valley' created by a feeling of 'uncanniness'.

Freud stressed the importance of psychoanalysis in allowing us to understand the true reasons why human beings are afraid of darkness, tight spaces and so on. He discovered this might have to do with the "infantile" stage, when we were all not quite free and we were imprisoned in our mother's wombs. Moreover, he believed the reason why we have this "uncanniness" feeling toward other objects has to do with our deep seated fear of death, it's our "morbid anxiety". On the other hand, Mori thinks that the "uncanniness" is due to the fact that objects, such as humanoid robots, are becoming too similar to us, we can no longer tell if there is a soul in the robot or it's merely a machine.

Michel Foucault in *Language, Counter-Memory, Practice: Selected Essays and Interviews* stated that transgression is not as crystal clear as black and white; but rather a blurry line a form of a spiral, where there is no certain way to distinguish differences (Foucault 35).

Rather the existence of 'uncanniness' is subjective as not every individual will react in the same way to the conduits that create this feeling. Also whether or not the theory developed by Freud and Mori applies to other fields such as art is unclear. The connection between the theory of The Uncanny Valley and the development of robots is like a double helix where there is no exact way to distinguish the differences, and everything is inextricably linked. Due to the fact that robots are becoming so similar to humans, the differences that separate robots and humans have become obscure, leaving us confused and dissatisfied. That's the Uncanny Valley.

Films in the Uncanny Valley

2.1 Films

Compare the blockbuster movie *Avatar* by James Cameron with a small production three minutes animation called "Marcel the Shell with Shoes On" by Dean Fleischer-Camp. "No matter how much art and technology we threw at this thing, if it wasn't in the eyes of the characters- if you didn't see a soul there- it would just be a big clanking machine" said Cameron (Weschler275). "In fact, researchers currently debate over whether they should try to overcome the uncanny valley or simply design robots that are more mechanical in appearance" (Kageki 1). "The [U]ncanny [V]alley as described by Masahiro Mori is a phenomenon that arises when setting human likeness in relation to familiarity" (Mewes 2). Only when robots approached human likeness in near perfection, "familiarity" rises again and "ultimately reaches a level where it is on-par with the perceived familiarity of a real human (Because of the thing being actually indistinguishable from those at that point)" (Mewes 3). Moreover, "[w]hile the incremental approach is useful for gaining insights for social science and to improve upon the human likeness of androids, it may not always be the right approach for maximizing the familiarity of robots" (Mewes 9-10). In conclusion, "Because of the [U]ncanny [V]alley phenomenon, very human like androids have a high probability of becoming eerie and therefore unfamiliar" (Mewes 10).

However, for *Avatar*, there was a catch; the skin color was blue; it was very unlike human skin, so it was easy for people to feel comfortable with the movie and Avatarians wouldn't be considered stuck in the "Valley" as their skin had no resemblance to ours (276). "Conversely, the effect of the uncanny can easily be achieved when one undertakes to reinterpret some kind of lifeless thing as part of organic creature, especially in anthropomorphic terms, in a poetic or fantastic way" (Jentsch 12).

On the other hand, films such as *Futurama*, *Toy Story 1.2.3* and *The Stapford Wives* can be related to the little shell, Marcel, with only one eye and wearing a pair of pink dolly shoes, walking around with a clump of lint and draping that clump of lint around like her pets, is much closer to human. The affection we share with Marcel is greater than what we saw with *Avatar* (Weschler278). "There are many industrial robots, and as we know the robots do not have a face or legs, and just rotate or extend or contract their arms, and they bear no resemblance to human beings" (Mori 1). "The different approaches to familiar robots can be observed in Hollywood features" (Mewes 11).

Just like the Specialist (evolved mecha) said to David in the movie *Artificial Intelligence: A.I.*, I often felt a sort of envy of human beings, of that thing they call 'spirit'. Human beings have created a million explanations of the meaning of life- in art, in poetry, and mathematical formulas.

There are a lot of films which stumble across the notion of Uncanny Valley, such as *2001: A Space of Odyssey* (1968), *Alien* (1979), *The Alien Legacy* (1999), *Modern Times* (1936) and *I'm a cyborg, but that's OK* (2006). The very first scene in *I'm a Cyborg, but that's OK* shows that Young-Goon is at an electronic device assemble factory where human are made to looks like robots and just do the same thing over and over again day after day. This scene evokes Charlie Chaplin's classic film *Modern Times* which is set at the beginning of the technologic revolution, when, machines began to replace humans and humans become machines-like. At the end of the scene, Young-Goon says "I certainly am [a cyborg]". *Coriolanus* by Shakespeare can also be put into this category. Coriolanus went mad and became a killing machine, and all he did and thought about was killing. All of the examples above generate a different yet equally powerful feeling of "uncanniness".

I'm a Cyborg, But that's OK! is a Korean film about a girl called Young-Goon who firmly believes that she is a cyborg. The film begins by showing Young-Goon's mother working at a sausage factory, and the level of dirtiness makes Young-Goon dislike food more and more each day. On top of that, Young-Goon's grandmother believes that she is a mouse, she says to Young-Goon that the mice in the kitchen are her family and she is taking care of them. Due to these abnormal events which happened when she was growing up and in order to avoid eating filthy food, she "became" a cyborg.

Young-Goon listened to the radio with her grandmother when she was growing up. The radio became a voice in her head just like a motherboard is the key to operating a whole computer. The "program" inside her head is so strong that she acts like a cyborg. She then refused to eat because cyborgs do not need to eat; cyborgs are like robots, they just need to charge their batteries. Her belief enables her imagination to run wild; she can shoot bullets from her finger tips and her mouth. For a period of time the movie portrays her as a real robot; the audience begins to notice that Young-Goon's emotionless behaviors really resemble those of a manufactured robot. "The cyborg is a condensed image of both imagination and material reality" (Haraway 292). It was the abject feelings she had toward food that traumatised her, and she became insane, driven by madness. The emotionless feelings associated with being a "cyborg" begin to take over, leading her to seek revenge, and she begins to kill human beings. In Charlie Chaplin's *Modern Times*, the male actor similarly becomes robotic. However in contract, he frees himself from being a robot, by doing something impulsive and creative.

Donna Haraway mentions in her essay, "A Cyborg Manifesto: Science, Technology and Socialist-Feminism in Late Twentieth Century", that "[b]y the late twentieth century, our time, we are all chimeras, theorized and fabricated hybrids of machine and organism. In short, we are cyborg" (292). The first scene in which Young-Goon appears shows her at an electronic device assembly factory. The factory makes the humans behave like robots, doing the same thing over and over again every day.

In Shoshana Felman's "Madness and Philosophy or Literature's Reason" she states that "[m]adness can only occur within a world of conflict, within a conflict of thoughts. The question of madness is nothing less than the question of thought itself" (Felman 206). This illustrates the odd circumstances of Young-Goon's childhood. "What characterizes madness is thus not simply blindness but a blindness 'blind to itself', to the part of necessarily entailing on 'illusion of reason' (Felman 206). Young-Goon came to the point that she had to create an illusion to deal with the conflict that had built up inside her over eating grotesque food. In fact, she believes her illusion so deeply that she created a safe place in her own mind, that safe place being the world of robots. Perhaps to her, the robot world is full of order and no conflict, and this can help her to cope with the reality of chaos. "To the extent that insanity is traceable to mental maladjustments due to psychological experiences it would appear that modern civilization is a cause to a very large extent of serious psychological maladjustment on the part of mankind" (Ogburn/Winston 822).

According to the definition in the Oxford English Dictionary, "trauma is a deeply distressing or disturbing experience, and emotional shock following a stressful event or physical injury which may lead to long-term neurosis". Young-Goon was horrified by the filth that she saw at the sausage factory, and the horrifying images of how disgusting the factory was traumatized her. Trauma is "the moment of break down, the sudden confusion of impact, of being overwhelmed by the stunning shock where everything adaptive fails, expect for the obliteration of knowledge" (Nachmani, qtd. in Henke 27). People respond to their dissociating traumas in two basic ways: they either learn to traumatize themselves, or they learn to traumatize others. In this case, Young-Goon began to traumatize herself. She suppressed her feelings and created the illusion of being a cyborg, and this eased her conflict in life and helped her deal with the feeling of "uncanniness".

Films such as *Mon Oncle 'My Uncle'* (1958) and *The Matrix* (1999) can be related to Uncanny Valley. The movie *Mon Oncle* has not only explored the alienation that technology brings to people, but also portray human becoming machinic. We do the same thing over and over again, we go on to the same path, wear mostly the same clothes and say the same words, just like in "In the Penal Colony": "These uniforms are really too heavy for the tropics" (Kafka 3). Or as Agent Smith in *The Matrix* said: "Did you know that the first Matrix was designed to be a perfect human world? Where none suffered, where everyone would be happy. It was a disaster. No one would accept the program. Entire crops were lost. Some believed we lacked the programming language to describe your perfect world. But I believe that, as a species, human beings define their reality through suffering and misery. The perfect world was a dream that your primitive cerebrum kept trying to wake up from. Which is why the Matrix was redesigned to this: the peak of your civilization".

However, in order to understand the feeling of "uncanniness" created by the Uncanny Valley, we must analyse *Pietà*. At the beginning of the film, *Pietà* Kang-do encountered a woman who claimed to be his birth mother. Kang-do, who has no family and has had no friends throughout his whole life, works for a loan shark as an enforcer. He cripples people if they cannot repay their debt to the loan shark. A woman shows up in Kang-do's life claiming to be his long lost birth mother. Due to the inescapable and unbreakable bond between a son and his birth mother the two should have a feeling of great closeness.

However Kang-do is conflicted, he has both a familiar and an unfamiliar feeling towards this woman who claims to be his mother, he is caught up in a *heimlich* [homely] but yet *unheimlich* [unhomely] feeling.

When Kang-do tried to find proof that this "unfamiliar' mother was in fact his own birth mother, his actions could be described as "uncanny". Kang-do first cut off a testicle and said to the woman "if you really are my mother, you would eat this". This is Kang-do's "castration complex", in order to take away his "unfamiliar" yet "familiar" feeling, he offers up something that belongs to him. Another incident which creates an "uncanny" feeling occurred when Kang-do tried to go back to where he came from. He said to her [the woman who claimed to be his mother]: "I came out of here? […] Then Can I go back in? I am going back in. Hold still. I'm going in". Kang-do's desire to go back to his mother's womb is an "infantile" factor that causes his "uncanny" actions.

According to Freud's essay "Beyond the Pleasure Principle" there are numerous occasions and events that cause "tension" between people, and our emotions change by the "motion by an unpleasurable tension". This tension only leads to two methods in which to ease the tension, which is "an avoidance of unpleasure or a production of pleasure" (Freud1920-22 7). In this situation, Kang-do eased his tension by 'producing pleasure'; however the mother attempted to 'avoid an unpleasure' and block Kang-do's unwanted advances but she failed to do so. From this point on Kang-do started to get used to the company of this 'mother' and he began to feel an attachment to her.

Most stories that make us feel uncanny are all concerned with the idea of a "double". Repeated situations, things or events will appeal to us as a source of uncanny feeling because we feel helpless and unfamiliar (Freud1990 11). When Kang-do walked through those zigzagging, crowded alleys to find those who had not paid he encountered an eerie sense of Deja-vu. On his trawls Kang-do would search for young couples who had failed to pay up, another young couple who refused to pay up, soon to be parents that can't pay up but are willing to be crippled, to an old man who question Kang-do "what's death" and jumped off the building and killed himself, all these different scenes are a recurrence, repetition of a tight, dark, small places. In real life, a sense of uncanniness only occurs in relation to darkness, silence, solitude and death. This can be related to "infantile morbid anxiety" from which most humans have never become quite free since they were in their mother's womb (Freud1990 20). All of the points discussed above are concerned with the "uncanniness" and can be related to modern technology and life.

References

2001: A Space of Odyssey (1968). Dir. Stanley Kubrick. Perf. Keir Dullea, Gary Lockwood, William Sylvester. Film.

ABC News: Fashion fembot to strut Japanese catwalk (2009)
http://www.abc.net.au/news/stories/2009/03/16/2517770.htm

Alien (1979). Dir. Ridley Scott. Perf. Sigourney Weaver, Tom Skerritt, John Hurt. Film.

The Alien Legacy (1999). Dir. Michael Matessino. Perf. Nick Allder, Bolaji Badejo, Mia Bonzanigo. Film.

Amir, Eyal, Neal J. Roese.
'Human—Android Interaction in the Near and Distant Future'
Perspectives on Psychological Science, Vol. 4, No. 4, The Next Big Questions in Psychology (July 2009), pp. 429-434

Artificial Intelligence: A.I. (2001). Dir. Steven Spielberg. Perf. Haley Joel Osment, Jude Law, Frances O'connor. Film.

Avatar ('Afanda') (2009). Dir. James Cameron. Perf. Sam Worthington, Zoe Saldana, Sigourney Weaver. Film.

Benjamin, Walter. 'The Work of Art in Age of Its Technological Reproducibility.' *Walter Benjamin: Selected Writings (Vol. 3).* Trans. Edmund Jephcott and Harry Zohn. Ed. Howard Eiland and Michael W. Jennings. London: Fontana Press, 1968. 101-33.

Blade Runner (1982). Dir. Ridley Scott. Perf. Harrison Ford, Rutger Hauer, Sean Young. Film.

Carlyle, Thomas. 'Signs of the Times.' *Complete Works of Thomas Carlyle (20 Vols): Critical and Miscellaneous Essays, Vol. 1* (1901). Dana Estes/Charles Lauriat, 1884. 462-88.

Dickens, Charles. *Hard Times*, ed. Kate Klint (Harmondsworth: Penguin, 2003).

Elysium (2013). Dir. Niell Blomkamp. Perf. Matt Damon, Jodie Foster, Sharlto Copley. Film.

Foucault, Michel. *Discipline and Punish.* Trans. Alan Sheridan. New York: Vintage, 1977.
---. *Language, Counter-Memory, Practice: Selected Essays and Intervoews.* Trans. Donald F. Bouchard and Sherry Simon. New York: Cornell University Press. 1977. Print.

Freud, Sigmund. 'Beyong the pleasure Principle Group Psychology ad Other Works.' London. The Hogarth Press and the institute of Psycho-analysis. Vol. XVIII. 1920-22.

---.'The Uncanny.' *Penguin Freud 14: Art and Literature*. Trans. Albert Dickson. Harmondsworth: Penguin, 1990. 335-76.

Futurama (1990-2013). Curiosity Company, The 20th Century Fox Television.

Haraway, Donna J. 'A Cyborg Manifesto.' *Simians, Cyborgs, and Women: the Reinvention of Nature*. London: Free Association, 1991.

Heidegger, Martin. *The Question Concerning Technology*, and other Essays, trans. William Lovitt. New York: Harper & Row, 1977.

Huxley, Aldous. *Brave New World.* London: Pearson Education, 2008. Chapter 1.

I'm a Cyborg, but that's OK (2006). Dir. Park Chan-wook. Perf. Su-jeong Lim, Rain, Hie-jin Choi. Film.

Jentch, Ernst. 'On the Psychology of the Uncanny' (1906) Translated by Roy Sellars

Ji Qi Zhan Jing 'RoboCop' (2014). Dir. José Padilha. Writers, Joshua Zetumer, Edward Neumeier. Perf, Joel Kinnaman, Gary Oldman, Micheal Keaton.

Kafka, Franz. 'In the Penal Colony.' *The Transformation and Other Story*. Trans. and Ed. Malcolm Pasley. Harmondsworth: Penguin, 1992. 127-53.

Kageki, Norri. 'An Uncanny Mind: Masahiro Mori on the uncanny Valley and Beyond.'12, Jun. 2012 Web 27, Feb. 2014 <http://spectrum.ieee.org/automaton/robotics/humanoids/an-uncanny-mind-masahiro-mori-on-the-uncanny-valley>

Lacan, Jacques. 'The Mirror Stage.' *Écrits*. Trans. Bruce Fink. London: W.W. Norton, 2006.

Landau, Elizabeth "Why Zombies, robot, clown freak us out" CNN(San Diego), 27. Sep. 2012, Web 27. Feb. 2014

The Lego Movie (2014). Dir. Phil Lord, Christopher Miller. Writers, Phil Lord, Christopher Miller. Perf, Will Arnett, Elizabeth Banks, Alison Brie. Film.

MacDorman, Karl F. 'Androids as an Experimental Appratus; Why Is There an Uncanny Valley and Can We Exploit It?' Web 27, Feb. 2014 https://www.lri.fr/~sebag/Slides/uncanny.pdf

The Matrix (1999). Dir. Andy Wachowski, Lana Wachowski. (as The Wachowski Brothers) Perf. Keanu Reeves, Laurence Fishburn, Carrie-Anne. Film.

Mewes, Daniel. 'The Uncanny Valley' Web 27, Feb, 2014. <http://embots.dfki.de/doc/seminar_ss09/writeup%20uncanny%20valley.pdf>

M.I.B (1997). Dir. Barry Sonnenfeld. Perf. Tommy Lee Jones, Will Smith, Linda Foirentino. Film.

Modern Times (1936). Dir. Charles Chaplin. Perf. Charles Chaplin, Paulette Goddard, Henry Bergman. Film.

Mon Oncle ('My Uncle') (1958). Dir. Jacques Tati. Perf. Jacques Tati, Jean-Pierre Zola, Adrienne Servantie. Film.

Mori, Masahiro. 'The Uncanny Valley- Energy'1970, Energy, 7(4), pp. 33-35 Translated by Karl F. MacDorman and Takashi Minato

Pietà '피에타' (2012). Dir. Ki-duk Kim. Writer. Ki-duk Kim. Perf. Min-soo Jo, Jung-Jin Lee, Ki-Hong Woo. DVD.

Rocky Horror Picture Show (1975). Dir. Jim Sharman. Perf. Tim Curry. Susan Sarandon, Barry Bostwick. Film.

Spinrad, S. Phoebe. *Texas Studies in Literature and Language,* Vol.26, No.1, The English Renaissance. Spring 1984, pp. 74-93.

The Stapford Wives (2004). Dir. Frank Oz. Perf. Nicole Kidman, Bette Midler, Matthew Broderick. Film.

Taro. Revisiting Japan's 'Uncanny Valley'
http://news.3yen.com/20090324/revisitingjapansuncannyvalley/

Toy Story1,2,3 (1995,1999,2010). Dir. John Laseter/ Lee Unkrich. Perf. Tom Hanks. Tim Allen. Don Rickles. Film.

WALL-E (2008). Dir. Andrew Stanton. Perf. Ben Burtt, Elissa Knight, Jeff Garlin. Film.

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Verticality of Space in Japanese and English with Image-Schema in Cognitive Linguistics

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Abstract

The purpose of *this study* is to explore a role of iconic co-speech gesture (ICSG) in expressing vertical space at a foreign language (FL) high school class. Theoretical framework in *this study* is:

- Image schema (Lakoff, 1987),
- Information Packaging Hypothesis (IPH) (Hostetter, Alibali, & Kita, 2007; Kita, 2000),
- Interface Hypothesis (IH) (Kita & Ozyurek, 2003, 2007),
- Gesture-in-Learning-and-Development Framework (GLDF) (Goldin-Meadow 2003, 2009,),
- Growth Point (GP) (McNeill, 2000a, 2000b, 2005, 2008),
- Sociocultural theory (Vygotsky, 1987, 1997a, 1997b,1999), and
- Linguistic relativity (Whorf, 1956).

This study presumes that the theoretical framework noted above may support that ICSG plays a role in reconceptualizing lexicon-grammar in a linguistic categorywith restructured FL mode of thinking at an FL high school class when expressing vertical space.

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Introduction

The purpose of *this study* is to explore a role of iconic co-speech gesture (ICSG) when learning FL at high school class in expressing vertical space. Hypothesis: ICSG plays a role reconceptualizing lexicon-grammar in a linguistic categorywith restructured FL mode of thinking at an FL high school class when stating vertical space.

English and Japanese languages use different spatial coordinating system when talking about vertical space. First, English has spatial prepositions which discriminate contact vs. no-contact, unlike Japanese. This suggests that English speakers use two different semantic categorizations, however, Japanese a single semantic categorization when expressing vertical space. Second, there are remarkable typological differences between Japanese and English when describing vertical space. Japanese is classified as an SOV language with a highly flexible word order which develops postpositions. SOV languages like Japanese have postpositions only (e.g. Croft 2003, p. 56; Greenberg,1990, p. 45; Comrie 1989, p. 93), but not prepositions. Conversely, English is an SVO language with a strict word order, which tends to develop prepositions. Clearly, there are significantly dissimilar thinking processes between Japanese and English with regard to conceptualization of vertical space (i.e. contact vs. no-contact).

This study presumes that ICSG may have a salient effect on reconceptualizing lexicon-grammar in a linguistic categoryby restructuring L1 habitual thought to that of EF with social interaction and generality when learning vertical space. Six reasons account for this. First, ICSG may (a) help with the improvement of learners' understanding of the difficult verbal material when expressing vertical space (see IPH), (b) unify their speech and thinking to describe vertical space (refer to IH), (c) mediate remembering of their novel knowledge of vertical space (i.e. GLDF), (d) accelerate the acquisition of linguistic categorywhen expressing vertical space in learning EFL (see GP), (e) provide them scaffolding to organize their thinking in expressing vertical space (refer to GP and Vygotsky, 1987), and (f) facilitate generating an FL mode of thinking when expressing vertical space. Refer to image schema (Lakoff, 1987) and Vygotsky (1987).

Statement of Problem

Based on studies presented by Whorf (1956), Lucy & Wertsch (1987), and Pavlenko (2011a, 2011b), *this study* postulates that Whorf's central concerns were a linguistic category and habitual thought. Nevertheless, very few studies of restructuring a linguistic category have been presented to examine a role of ICSG when expressing vertical space to date. Definition of a linguistic category is that a mental representation linked to lexical and grammatical concepts as a result of categorizing lexicon and grammar (e.g. Pavlenko, 2009, p. 125-6; Kurylowicz, 1965, p.55).

Coventry et al. (2012) points out, "literatures on L1 and L2 spatial language acquisition are rarely considered together" (p. 224). Very few studies have been published with regard to systematic contrastive analyses of vertical space in Japanese and English.

"Research into spatial preposition in general indicates that geometry is essential for their description" (Chilton, 2015, p.16). Geometric relations have gained attention in approaches to spatial language semantics (e.g. Coventry, 2012; Herskovits, 1986; Landau & Jackendoff, 1993). Nonetheless, very few researches on the restructuring of lexicon-grammar in verticality of space have been presented in the field of L2 acquisition and psycholinguistics.

Background of Research

Why did my former American high school students' Japanese oral proficiency improved significantly with the use of ICSGI accompanied auditory training?

I assume that my former American high school students had suffered from reconceptualizing lexicon-grammar in a linguistic category of English to that of JFL in order to restructure their habitual thought in English to that of Japanese.

It is important to note that my first year Japanese language students' performance had been very poor at the beginning of a school year; however, at the time of my instruction to the students, the creation of ICSG accompanied by auditory training and its pictorial representations assisted with the students' competence of lexicon-grammar to improve their Japanese oral production. Crucially, their Japanese oral proficiency improved significantly by the end of school year.

Prior to an introduction to ICSGI, the students had difficulty to converse in structured sentences of Japanese, including verbs, adjectives, particles, negative and affirmative sentences to questions. It was imperative for me to create an effective teaching method to help the students. In order to clarify the experiences, an explication of my Asian puppet shadow show production will be described.

Asian Puppet Shadow Show Production

My Japanese language students (1st year to 4th year) had performed puppet shadow shows in Japanese under my direction for seven years. My students' appreciation of and enthusiasm for the Japanese language and culture further improved due to the production.

I generated the production, while also developing curriculum and receiving support from the parents, administrators and students as well as Japanese communities. However, the lack of an efficacious teaching method for the weak language background first year Japanese language students eroded their desire to learn the language, although they had been motivated to learn Japanese at the beginning of the school year.

Serious discipline problems for the first time in my twenty-five years teaching experience resulted. It takes learners of Japanese about three times as long to learn the language as it would take them to learn a language more closely related to English, such as French or Spanish (Appendix 2). This only concerns speech. If we also teach Japanese writing systems, it will take for students more than three times as long to learn Japanese because the Japanese language has four different writing systems. Thus, if the learners would like to become proficient in Japanese, they need to plan on spending many years studying it. It was urgent for me to produce a relevant teaching method for the weak background students.

Weak Background Students

The 9th through 11th graders enrolled in a first year Japanese class at the high school. Four different levels of English courses (i.e. advanced placement, academic gifted , average, and basic English) were offered at the high school. Usually students, who took advanced placement and academic gifted English courses, enrolled in my class at the high school. However, after teaching them for eight years, the first year Japanese language students who had taken average or basic English courses enrolled my class. One of them failed in Spanish level one and others have never taken a foreign language course. English teachers told me that students of these courses had a difficulty to describe themselves in a written form with their first language (L1). Thus, I foresaw that the students would have problems with learning Japanese because through my twenty-five years of teaching experience, in general, students with L1 problems would have a difficulty to learn JFL.

At the beginning of my class, they conversed with their classmates and me fairly well, though they had fumbled a little with vocabulary. With the introduction of grammar concepts, they totally confused their Japanese conversation skills. The textbook for my class had written by structurists, who had adapted the communicative approach. The lexicon-grammar, syntactical structure, vocabulary, and pronunciation of the Japanese language are entirely dissimilar to these of English except derived words from English. Apparently, students with weak-language-back ground had suffered from the large difference between the two languages. A majority of them did not have good study habits, either. Consequently, their limited language capacity inhibited the use of the method, which had been successful in teaching other high school Japanese language students at the high school for the past eight years.

Higgs & Clifford hypothesis: **Importance of Learning Grammar**

Higgs & Clifford (1982) proposed their hypothesis to learn foreign languages and suggest that:

> While the most efficient way to achieve survival level proficiency would be a course that stressed vocabulary, our experience indicates that such a program would work to the disadvantage of students who wished to develop higher levels of proficiency. Students entering such a program would have to be warned of its potentially negative effect on their long-range aspirations (p.73).

Clifford & Higgs' hypothesis suggests that beginning level students need more structure, repetition, and support. Therefore, the teacher's control with beginners is the gateway to communication success, practicing pronunciation with auditory training, and integrating pronunciation, grammar and vocabulary, which are the crucial points to assist the beginners to acquire a certain level of proficiency. I assume that the students' difficulty existed in the lack of support in reconceptualizing lexicon-grammar from English to that of JFL at the time of my instruction.

Difficulty of Reconceptualization of Lexicon-grammar

As they realized the degree of complexity to learn Japanese with the introduction of certain rules of the Japanese language, the novelty of learning a new language wore off

quite rapidly. Lack of effective teaching methods for the students left me unable to handle their discipline problems. Any modification did not help with their progress. An inevitable consequence was students' misbehavior. My motivation to teach Japanese gradually eroded due to the lack of effective teaching methods derived from an examined theory.

Modification of Total Physical Response-Storytelling

Total Physical Response-Storytelling (TPR-S) (Ray & Seely, 1998) consists of innovative ways, including using a story and gesture as well as drawings which is a groundbreaking way to teach FL. TPR-S has been popular in Spanish and worked very well to improve Spanish students' proficiency. TPR-S allowed me to explore the extent of my interest in the modification of a method to fit the Japanese language students.

Novel activities with Iconic Co-speech Gesture Imitation Accompanied by Auditory Training

The creation of co-speech gesture with memorable visual images, which show how to generate gestures for my students to learn vocabulary and grammar were presented in my class. Primary organization of the instruction was simple skills in isolation as learners can only initially handle simple information. After embodiment of the simple information, I had them process the information slowly and progressively in more complex situations.

Pleasure to Learn the Japanese Language with Iconic Co-speech Gesture Imitation

Assignment

Assigned homework for the students was repeating sentences after an auditory material and copying each sentence from a textbook into their notebook in Japanese and English, using a Japanese textbook with English translation. Cummins (2005) supports providing translation to students in an English as a Foreign Language (EFL) class and points out, "there is empirical evidence that translation can serve useful pedagogical purposes"(p. 16). Another homework assignment was practicing by repeating dialogues with ICSGI and images.

Students were required to do homework every day at least thirty minutes. Cooper et al. (1998) says that the more homework students completed, the higher their achievement at upper grade (6-12 grades). Furthermore, Cooper et al. (2006) points out, "[…] the optimum benefits of homework for high school students might lie between 1 1⁄2 and 2 1⁄2 hours [for six different subjects]." (p. 52). Thus, it is relevant for me to assign them homework for thirty minutes a day.

Emphasis of Listening Practice

A listening practice at home also was mandatory for the students because undoubtedly students, who had problems with repetition practice in my class, had constrained abilities to acquire Japanese conversation skills. There is less remarkable difficulty for English speakers in Japanese phonology; however, lexicon-grammar dissimilarity hinders English speakers' oral production.

I requested the students a fair amount of listening practice that was necessary to reconceptualize lexicon-grammar from English to that of JFL to improve oral production because I assumed that it would help with comprehending the dialogues in the auditory materials and sequencing the dialogues. An explanation of an experience during my school days provided enough information to convince them of the importance of listening to the auditory material.

The grammar-translation method of foreign language teaching, which is one of the most traditional methods, dating back to the late nineteenth and twentieth centuries in Japan, affected learning English.

Undoubtedly, the emphasis on achieving correct grammar with little regard for the free application and oral production is the greatest disadvantage to this method. Readings in the target language are translated directly and then discussed in the native language. Seriously, inevitable result was teachers' correction. "[S]tudents are clearly in a defensive learning environment where right answers are expected." (Omaggio 1993, p. 91).

Despite all of these disadvantages, certain positive traits were found in such a constraint environment, grammar-translation dominated EFL classes in Japan during the 1960s. After studying English for six years with the grammar-translation method in Japan, my listening comprehension inability in English resulted, despite the fact that I was able to comprehend the same sentences as those in a written form when reading them. Insufficient exposure to listening to English sentences impaired my listening comprehension capability. At that time, English textbooks had not accompanied auditory materials, thus, teachers and students had not had a chance to access the materials for the textbooks in Japan.

Hence, I was primed to experience as much of listening to the auditory materials in English as possible. After an exploration of the extent of my interest in the practices to fill the missing link between listening comprehension and written words until the auditory materials became intelligible to me, I suddenly realized that I understood what the auditory materials talk to me. This experience pleased me enormously. This was a starting point for me to progress oral production in EFL. Fabrro (2001) stated, "Further, bilinguals seem to have specific and independent channels according to the direction of translation" (p. 219).

Hence, after the explanation of the reasons that Japanese language students in my class should listen to an auditory material, almost all of them listened to an auditory material diligently.

Classroom activities with Iconic Co-speech Gesture Imitation

My students' problem was the inability of reconceptualizing lexicon-grammar from English to that of JFL to have face-to-face conversation. The challenge was bridging a missing link between lexicon-grammar in English and that of Japanese to have them to talk in Japanese.

The initial stage of the challenge was to have them understand differences between English and Japanese lexicon-grammar.

Second, after I explained the differences, handouts of ICSGI with images were given to the students. In contrast to the text only handouts, handouts with images which have cartoon character drawings for ICSGI were evocative for them. These pictographic cartoons demonstrated happy face representations of actions and emotional states.

Third, ICSGI was performed to explain gestures for the vocabulary and grammar, accompanying speech. They observed ICSGI with full attention. Observing ICSGI seemingly generated some crucial areas in their brain using face-to-face communication.

Fourth, I asked them to imitate my ICSGI and then they practiced several times with me.

Fifth, an assignment was given to each group in class to exercise with ICSGI in a small group, including repetitious practices with imitated gestures and speech.

Sixth, after the completion of the assignment, ICSGI games were performed in the class.

The aim of these activities was to fasten their memory regarding grammar and vocabulary in their brain. There is no doubt that repetitious practices with an ICSGI game accelerated the embodiment of Japanese vocabulary and grammar. They were excited with the games. Their motivation about learning vocabulary and grammar in JFL were quite high.

Seventh, the next challenge was having the students have a conversation in Japanese, which required the students to reconceptualizing lexicon-grammar from English to that of JFL by integrating their phonological, semantic, and grammatical skills. It suggests that they also needed to restructure their L1 mode of habitual thought to that of JFL.

This activity was certainly light-hearted and enjoyable rather than threatening. They were fairly excited about the game with the activities and Japanese conversation to explain their everyday life. Their phonological, semantic and grammatical knowledge orchestrated to speak in Japanese, which indicate that they successfully reconceptualized lexicon-grammar from English to that of Japanese with restructured EFL mode of thinking. Consequently, they motivated and challenged, even though the learning tasks increased the complexity.

The foundation of the novel method pleased the students enormously. This activity dispelled any enduring feeling of reticence or embarrassment during their attempts to speak in Japanese. At this point, they acquired a certain extent of satisfaction in the fact that they were able to show off their abilities to their classmates and family members.

Surprisingly, their oral proficiency in JFL was almost equivalent to that of students who had been taking advanced placement or academic gifted English courses at the high school when I assessed their JFL conversation ability at the end of the school year. They were full of enthusiasm to learn this challenging language for English speakers.

Role of Iconic Co-speech Gesture

What were the differences between communication with ICSGI accompanied by auditory training and in the absence of ICSGI with auditory training?

I assume that ICSGI accompanied by auditory training played a crucial role in reconceptualizing lexicon-grammar from English to that of JFL with JFL mode of thinking. Consequently, their proficiency skyrocketed significantly as stated earlier. A majority of the elements supporting their FL learning were in harmony.

They realized that learning the novel and complicated language was a pleasurable challenge and inspired them to improve their Japanese language proficiency. It would be relevant to say that learning JFL with ICSGI accompanied by auditory training initiated the powerful motivation. It was facilitated with the personification by talking about their everyday life, which allowed the students to improve their conversation skills. Interestingly, ICSGI accompanied by auditory training supported the strong language background students' writing abilities, as well as these of telling stories in Japanese, which are not an easy task for average American high school students. The discipline problems totally vanished in my class; rather their motivation toward the Japanese language and culture initiated further desire to participating in Japanese classes. It is plausible that ICSGI accompanied by auditory training assisted their competency of reconceptualizing lexicon-grammar with JFL mode of thinking a great deal to improve their oral proficiency.

Discussion

This study postulates that a role of ICSG could be facilitating reconceptualization of lexicon-grammar in a linguistic categoryto a certain degree. As a result, habitual thought in L1 is restructured to that of FL when expressing vertical space.

Strikingly Distinct Spatial Coodinating Systems in English and Japanese
There are strikingly distinct spatial coordinating systems in Japanese and English when expressing vertical space. Two reasons account for this: (1) English has spatial terms which distinguish contact vs. no-contact, however Japanese does not. This suggests that English speakers use two different semantic categorizations, however, Japanese employ a single semantic categorization when expressing vertical space. The current study postulates that dissimilar spatial semantic categorization might influence thought when expressing vertical space.

Examples:

- **ON:** ① Ringo ga teeburu no ___***ue***___ ___***ni***___ aru.
  Apple GA[1] table LOC-GEN **RN**
  LOC VB.

  'There is an apple on a table.'

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[1] Refer to Appendix 3 for acronyms.

- **ABOVE:** ② Dento wa yuka no _**ue**_ _**ni**_ aru.

  Light WA floor LOC-GEN **RN LOC** VB.

  'There is a light on (or above) the floor.'

- **OVER** ③ Hikooki ga yama no **ue** wo tone-de iru

  Airplane GA mountain LOC-GEN *RN* ACC flying PROG:NONP.

  'An airplane is flying over the mountain.'

As the examples noted above, Japanese use the same terms to express vertical space. Conversely, English do not. It suggests that English conceptualize vertical space with two different semantic categorizations (i.e. contact vs. no-contact) and Japanese with a single semantic categorization (i.e. no differentiation of contact and no-contact). In other words, thinking processes differs between English and Japanese speakers when expressing vertical space.

(2) There are striking typological differences between Japanese and English with regard to *lexicon-grammar* when describing vertical space. As noted above, Japanese is classified as an SOV language with a highly flexible word order which develops postpositions. SOV languages like Japanese have postpositions only, but not prepositions. A default word order is SOV in Japanese. However, Japanese also has an OSV word order (See Saito, 1985). Conversely, English is an SVO language with a strict word order, which tends to develop prepositions. Examples for OSV word order are as follows:

    ④Hon wo tsukue no ue ni watashi ga okimasu.

    Book ACC desk GEN on DAT I GA put

'I will place a book on a desk.'

    ⑤Tsukue wo hon no ue ni watashi ga okimasu.

    Desk ACC book GEN on DAT I GA put

'I will place a desk on books.'

As the examples noted above, different word orders create dissimilar meaning in Japanese and English. A word order is crucial to describe vertical space in English and Japanese.

Role of Iconic Co-Speech Gesture

Based on theoretical frameworks presented by gesture studies, sociocultural theory, image schema, and linguistic relativity, *this study* presumes that to a certain degree, ICSG may have a noticeable effect on reconceptualizing lexicon-grammar and L1 mode of thinking when learning vertical space. Six reasons account for this:

Information Packaging Hypothesis

IPH claims "[co-speech] gestures occur when information is difficult to conceptualize" (Hostetter, Alibali, & Kita, 2007, p. 313). Vygotsky(1987) notes that "[M]otor processes associated with speech play an important role in facilitating the thinking process in particular, accordingly improving the subject's understanding of difficult verbal material" (p. 44).

Hence, having learners engage in co-speech gesture should be beneficial to learn vertical space in an FL class.

Interface Hypothesis

IH claims "[co-speech]gestures originate from an interface representation between speaking and spatial thinking" (Kita & Ozyurek, 2003, p. 17). Gesture is a sign which gives birth to meaning (e.g. Vygotsky, 1997a). Word meaning unifies speech and thinking (e.g. Vygotsky, 1987, p. 51). Co-speech gesture has word meaning in it.

Teaching co-speech gesture might facilitate the unification of speech and thinking when expressing vertical space. Consequently, they may successfully complete the restructuring of L1 habitual thought to that of FL when learning *lexicon-grammar* in expressing vertical space.

Gesture-in-Learning-and-Development Framework

GLDF claims that gesturing may help with shifting some of the load from verbal working memory to another cognitive system which may in turn "reduce demands on verbal working memory, accordingly making it possible to remember more words or letters" (Goldin-Meadow et al., 2001, p. 521). Vygotsky (1999) presents mediated remembering by signs (e.g. p. 53). In other word, remembering occurs by sign mediation.

For this reason, learners may effectively restructure *lexicon-grammar* by enhancing their memory which they will acquire at an FL class with ICSG when explaining vertical space. Furthermore, co-speech gesture might help them in avoiding forgetting newly learnt information in an FL class as time goes by, if they continue using it.

Growth Point

Linguistic categories of relational domains are space and time (e.g. Svoro, 2007, p. 734). The current study focuses on vertical space in prepositional categories of space.

GP proposes that linguistic categorization brings the image into the system of categories of language (e.g. McNeill, 2000, p. 315). Gesture makes image (e.g. Vygotsky,
1997 b, p. 134). Vygotsky (1997b) suggests, "[T]he word is linked to a certain image…an internal picture or pictogram of conditioned sounds connected with the internal image…" (p.126-7). Co-speech gesture has both gesture and words, which

linked images. Images allow learners to categorize vertical space, including contact vs. no-contact and LMHTR[2] and LMLTR[3] as in image schema.

ICSG may assist learners with reconceptualizing vertical space with integrating two different categorizations of vertical space, such as contact vs. no-contact and LMHTR and LMLTR because images help with categorizing vertical space. Consequently, FL learners may successfully reconceptualize *lexicon-grammar* at an FL class when expressing vertical space. See a later chapter for image schema.

Iconicity

Iconic gesture "presents images of concrete entities and/or actions. They are gestures in which…execution embodies picturable aspects of semantic content […]" (McNeill, 2005, p. 39).
McNeill (2005) also notes, "imagistic models of gesture production may offer a plausible account of the production of so-called iconic gestures" (p. 277).   Vygotsky (1987) suggests, "
thinking that consists entirely of memory images with no direct link to the random stimulation of the sense organs or of needs" (p. 64).

Campisi & Ozyurek (2013) note that iconic gesture is a powerful communicative strategy in learning new information which plays a role of a scaffolding device (e.g. p. 14).
Therefore, iconic gesture may contribute to organizing learners' thinking about vertical space by providing them scaffolding to understand and thinking about vertical space in EFL.

Image Scheme and Speech

"Sign, word and sound are the means of social interaction" which "has been seriously oversimplified" (Vygotsky, 1987, p. 48) due to a lack of generality

Image schema could be considered as generalized conceptual structures from our bodily experience (e.g. Croft & Cruse 2004; Mittelberg, 2008; Talmy 1988).   Image schema generalizes vertical space. Hence, it helps in facilitating social interaction.

Social interaction occurs when talking about vertical space. "Speech is a means of social interaction, means of expression and understanding" (Vygotsky, 1987, p. 48).

Vygotsky (1987) also claims, "The essence of the development of the concept lies in the transition from one structure of generalization to another…the child moves from elementary generalizations to higher forms of generalization.   This process is completed with the formation of true concepts" (Vygotsky, 1987, p.170).

Examples of integration of LMHTR vs. LMLTR with contactness in image schema are:

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[2] Land mark is higher than trajector.
[3] Land mark is lower than trajector.

(1)   *On*: Contact only.
- A spider walking *on* the celling (i.e. LMHTR with contact).

(Tyler & Evans, 2003, p. 92).

(2)   *Over*[4]: No-contact and contact with covering sense.
- The tablecloth is over the table (i.e. LMLTR with contact).

(Tyler & Evans, 2003, p. 44).

- They put a transparent plastic sheet over the painted ceiling of the chapel during repairs (i.e. LMHTR with no-contact).   (Tyler & Evans, 2003, p. 91).

(3)   *Above*: No-contact and contact.
- The ceiling *above* the lamp (i.e. LMHTR with no-contact).

(Herskovits, 1985, p. 62).

- Be careful! The rung *above* the one you're standing on is broken. (The Next-one-up Sense) (i.e. LMLTR with contact).   (Tyler & Evans, 2003, p. 120).

Image schema "provides a foundation for language acquisition" (Mandler, 1992, p. 587).   EF learners may form concept of vertical space by integrating speech and image schema when expressing vertical space.

Thus, speech in ICSG and image schema may facilitate formation of an FL mode of thinking when expressing vertical space. As a result, FL learners may successfully restructure L1 mode of habitual thought to that of FL thinking to formulate appropriate speech with restructured lexicon-grammar. FL learners' generalization may move from elementary generalizations to higher forms of generalization when expressing vertical space as Vygotsky (1987) suggests.

Conclusions:

English and Japanese speakers use distinct spatial coordinating system when talking about vertical space: (1) English has spatial prepositions which discriminate contact vs. no-contact, conversely, Japanese does not. English speakers employ two different semantic categorizations, however, Japanese a single semantic categorization when expressing vertical space which does not distinguish contact vs. no-contact. (2) There are striking typological differences between Japanese and English regarding *lexicon-grammar* when expressing vertical space. Thus, there is significantly dissimilar thinking processes between Japanese and English with regard to conceptualization of vertical space (i.e. contact vs. no-contact) exist.

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[4] "Over" denotes a spatial relation between two objects. The spatial relation concerns the vertical space dimension (Gardenfors, 2007, p. 59).

Based on six different theoretical framework, *this study* postulates that ICSG may have a salient effect on reconceptualizing lexicon-grammar in a linguistic category by restructuring L1 habitual thought to that of EF with social interaction and generality when expressing vertical space at FL high school classes.

Limitations:

This study will not present studies regarding gesture imitation and listening comprehension because: (1) "motor theory of speech perception is still controversial after more than 40 years, as in the role of mirror neurons" (Corballis, 2014, p. 235). It suggests that the mirror neuron theory of action has presented little convincing evidence that explains a connection between speech perception and gesture at this point. (2) Moreover, not only listening comprehension, but also auditory perception[5] has not formed commonly accepted hypotheses. The processes of listening comprehension and/or auditory perception in cognitive science are highly complex (e.g. Suvorov, 2007, p. 8; Lotto & Holt, 2010). (3) Data analysis of reconceptualizing lexicon-grammar in FL classes will not be presented. Future research may include these noted above.

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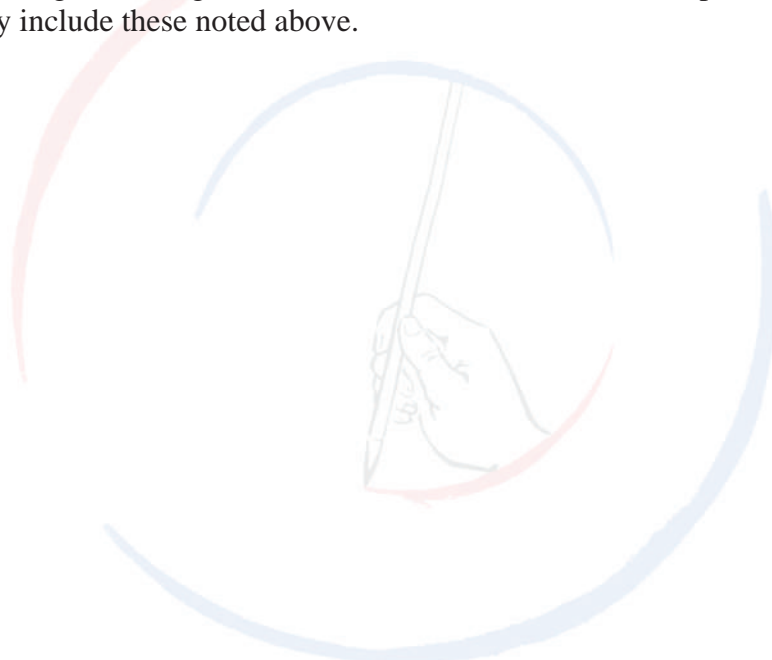
[5] "By this theoretical account, *speech perception* relies on a specialized perceptual system, distinct from general *auditory processing* and linked to speech production" (Weiner & Craighead, 2010, p.1684). *The current study* does not involve speech perception, which describes phoneme categories (Liberman et al., 1957), because *this study* does not discuss phoneme category in English and Japanese.

References:

Campisi, E., & Ozyurek, A. (2013). "Iconicity as a communicative strategy: Recipient design in multimodal demonstrations for adults and children." *Journal of Pragmatics* 47: 14-27.

Chilton, P. (2015). *Language, Space and Mind: The Conceptual Geometry of Linguistic Meaning*. New York, Cambridge University Press.

Comrie, B. (1989). *Language Universals and Linguistic Typology: Syntax and Morphology*. Chicago, IL, University Of Chicago Press.

Cooper, H., Nye, B., and Greathouse, S. (1998). "Relationships Among Attitudes About Homework, Amount of Homework Assigned and Completed, and Student Achievement." *Journal of Educational Psychology* 90(1): 70-83.

Cooper, H., Robinson, JC., & Patall, EA. (2006). "Does Homework Improve Academic Achievement? A Synthesis of Research,1987–2003." *Review of Educational Research* 76(1): 1-62.

Corballis, M. (2014). *The Recursive Mind: The Origins of Human Language, Thought, and Civilization*. Princeton, NJ, Princeton University Press,.

Coventry, K., Guijarro-Fuentes, P., & Valdes, B. (2012). "On the First and Second Language Acquisition of Spatial Language." *Spatial Cognition & Computation* 12(4): 219-230.

Croft, W. (2003). *Typology and Universals*. New York, Cambridge University Press.

Croft, W. C., D. A. (2004). Cognitive Linguistics. New York, Cambridge University Press.

Cummins, J. (2005). "Teaching for Cross-Language Transfer in Dual Language Education. 'Possibilities and Pitfalls." *paper presented at TESL Symposium on Dual Language Education: Teaching and Learning Two Languages in the EFL Setting*: 1-18.

Fabbro, F. (2001a). "The Bilingual Brain: Cerebral Representation of Languages." *Brain and Language* 79: 211-222.

Fabbro, F. (2001b). "The Bilingual Brain: Bilingual Aphasia." *Brain and Language* 79: 201-210.

Gardenfors, P. (2007). Cognitive semantics and image schemas with embodied forces. *Embodiment in Cognition and Culture*. M. Krois, Rosengren, M., Steidele, A., & Westerkamp, D. Amsterdam/Philadelphia, John Benjamins Publishing Company: 57-76.

Goldin-Meadow, S. (2003). *Hearing Gesture: How Our Hands Help Us Think*. Cambridge, MA, Belknap Press of Harvard University Press.

Goldin-Meadow, S., Nusbaum, H., Kelly, S., & Wagner, S. (2001). "EXPLAINING MATH: Gesturing Lighten the Load." *PSYCHOLOGICAL SCIENCE* 12(6): 516-522.

Greenberg, J. H. (1990). *On Language: Selected Writings of Joseph H. Greenberg*. Stanford, CA, Stanford University Press.

Gullberg, M. (2008). A Helping Hand? Gestures, L2 Learners, and Grammar. *Gesture: Second Language Acquisition and Classroom Research*. S. McCafferty, & Stam, G. New York, Routledge: 185-210.

Herskovits, A. (1986). *Language and spatial cognition. An interdisciplinary study of the prepositions in English*. New York, Cambridge University Press.

Higgs, T. V., & Clifford., R. (1982). The Push Toward Communication. *Curriculum, Competence, and the Foreign Language Teacher*. T. V. Higgs. Lincolnwood, IL, National Textbook Co.

Hoemann, H. W. (1978). PERCEPTION BY THE DEAF. *Perceptual Ecology*. E. C. Carterette, & Friedman, M. P. New York, Academic Press, Inc. 10: 43-64.

Hostetter, A. B., Alibali, M. W. & Kita, S. (2007). "I see it in my hands' eye: Representational gestures reflect conceptual demands." *Language and Cognitive Processes* 22(3): 313-336.

Institute, U. S. F. S. (2014). *Foreign Service Institute Course Catalog*. Washington, D. C.: 1-332.

Kita, S. (2000). How representational gesture help speaking. *Language and Gesture*. D. McNeill. New York, Cambridge University Press: 162-185.

Kita, S., & Ozyurek, A. (2003). "What does cross-linguistic variation in semantic coordination of speech and gesture reveal?: Evidence for an interface representation of spatial thinking and speaking." *Journal of Memory and Language* 48: 16-32.

Kita, S., & Ozyurek, A. (2007). How does Spoken Language Shape Iconic Gestures? *Gesture and the Dynamic Dimension of Language Essays in honor of David McNeill*. S. D. Duncan, Cassell, J., & Levy, E. T. Amsterdam, John Benjamins Publishing Co.: 67-74.

Kolers, P. A. (1963). "Interlingual word associations." *Journal of verbal learning and verbal behavior* 2(4): 291-300.

Kurylowicz, J. (1965). "The evolution of grammatical categories." DIOGENES 13(51): 55-71.

Lakoff, G. (1987). *Women, Fire and Dangerous Things: What Categories Reveal about the Mind*. Chicago, IL, University Of Chicago Press.

Landau, B., & Jackendoff, R. (1993). "'What' and 'where' in spatial language and cognition." *Behavioral and Brain Sciences* 16(2): 217-265.

Lotto, A., & Holt, L. (2010). "Psychology of auditory perception." *WIREs Cognitive Science*.

Lucy, J., & Wertsch, J. (1987). Vygotsky and Whorf: A Comparative Analysis. *Social and functional approaches to language and thought*. M. Kickmann. FL, Academic Press: 67-86.

Mandler, J. M. (1992). "How to build a baby: II. Conceptual primitives." *Psychological review* 99(4): 587–604.

Marblestone, K. L. (2007). *Semantic and Syntactic Effects on Double Prepositional Phrase Ordering*. Ann Arbor, MI, ProQuest.

Mayberry, R., & Nicoladis, E. (2000). "Gesture Reflects Language Development: Evidence From Bilingual Children." *Current Directions in Psychological Science* 9(6): 192-196.

McNeill, D. (2000a). *Language and Gesture (Language Culture and Cognition)*. New York, Cambridge University Press.

McNeill, D., & Duncan, S. (2000b). GROWTH POINTS IN THINKING-FOR-SPEAKING. *Language and Gesture*. D. McNeill. New York, Cambridge University Press: 141-161.

McNeill, D. (2005). *Gesture and Thought*. Chicago/London, University of Chicago Press.

McNeill, D. (2008). Imagery for speaking. *Crosslinguistic Approaches to the Psychology of Language: Research in the Tradition of Dan Isaac Slobin*. J. Guo, Lieven, E., Ervin-Tripp, S., Nakamura, K., & Ozucaliskan, S. London, UK, Psychology Press: 517-530.

Mittelberg, I. (2008). Peircean semiotics meets conceptual metaphor: Iconic modes in gestural representations of grammar. *Metaphor and Gesture*. C. C. Muller, A. Amsterdam/Philadelphia, John Benjamins Publishing Company: 115-154.

Omaggio, H. (1993). *Teaching Language In Context*. New York, Heinle & Heinle.

Pavlenko, A. (2009). Conceptual representation in the Bilingual Lexicon and Second Language Vocabulary Learning. *The Bilingual Mental Lexicon*. A. Pavlenko. Bristol, UK, Multilingual Matters: 125-160.

Pavlenko, A. (2011a). Thinking and Speaking in Two Languages: Overview of the Field. *Thinking and Speaking in Two Languages*. A. Pavlenko. Bristol, UK, Multilingual Matters: 237-257.

Pavlenko, A. (2011b). *Introduction: Bilingualism and Thought in the 20th Century*. *Thinking and Speaking in Two Languages*. A. Pavlenko. Bristol, UK, Multilingual Matters: 1-28.
.

Ray, B., & Seely, C. (1998). *Fluency Through TPR Storytelling: Achieving Real Language Acquisition in School*. Berkeley, CA, Command Performance Language Institute.

Rose, M., & Douglas, J. (2001). "The differential facilitatory effects of gesture and visualization processes on object naming in aphasia." *Aphasiology* 15(10-11): 977-990.

Saito, M. (1985). *Some asymmetries in Japanese and their theoretical implications.* Cambridge, MA, MIT.

Svorou, S. (2007). Relational Constructions in Cognitive. *The Oxford Handbook of Cognitive Linguistics*. D. Geeraerts, & Cuyckens, H. New York, Oxford University Press: 726--752.

Talmy, L. (1988). "Force dynamics in language and cognition." Cognitive Science 12(1): 49-100.

Tyler, A., & Evans, V. (2003). *The Semantics of English Prepositions: Spatial Scenes, Embodied Meaning, and Cognition*. New York, Cambridge University Press.

Vygotsky, L. S. (1987). *The Collected Works of L.S. Vygotsky: Volume 1: Problems of General Psychology*. New York, Plenum Press.

Vygotsky, L. S. (1997a). *The Collected Works of L.S. Vygotsky: Volume 3: Problems of the Theory and History of Psychology*. New York, Plenum Press.

Vygotsky, L. S. (1997b). *The Collected Works of L.S. Vygotsky: Volume 4: The History of the Development of Higher Mental Function*. New York, Plenum Press.

Vygotsky, L. S. (1999). *The Collected Works of L. S. Vygotsky Volume 6: Scientific Legacy*. New York, Plenum Press.

Whorf, B. L. (1956). *Language, thought, and reality [electronic resource : selected writings*. Cambridge, MA, MIT Press.

APPENDIX

Appendix 1

Higgs & Clifford Hypothesis

Figure 4. All Languages
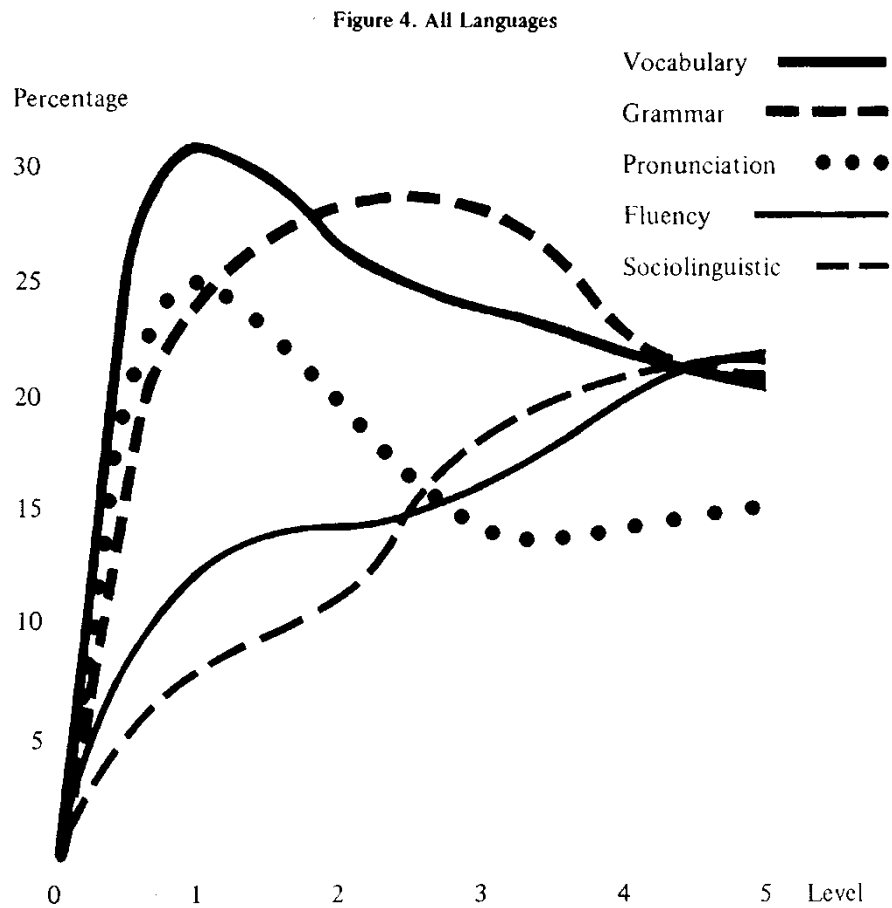
Higgs & Clifford (1982, p. 71)

Appendix 2

The Basic Courses at FSI: Long-Term Language Studies

Most *Basic* courses consist of an extensive core curriculum of speaking, reading and listening practice, with accommodation to individual jobs and learning styles. Students at Foreign Service Institute (FSI) are adult learners, are native speakers of English, and have a good aptitude for formal language study, plus knowledge of several other foreign languages. FSI teaches over seventy different foreign languages (FSI, 2014, p. 176). Students study in small classes (FSI, 2014, p. 188).
The Department of State language categories and expectations are as follows:

Category I 24 weeks	
Danish Dutch French (30 weeks) Italian	Norwegian Portuguese Romanian Spanish Swedish
Category II 36 weeks	
German Indonesian	Malay Swahili
Category III 44 weeks	
Most non-Romance/Germanic	except Arabic, Chinese (Cantonese and Mandarin,) Japanese and Korean
Category IV 88 weeks	
Arabic Cantonese Mandarin	Japanese Korean

(FSI, 2014, p. 176)

Appendix 3

Acronym	Explanations
ACC	Accusative particle
DAT	Dative particle
GEN	Genitive particle
LOC	Locative particle
RN	Relational noun
V, (VB)	Verb(al)
WA	Marker for commonly considered as topic

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The Impact of The 101s Storybook Intervention Program on Executive Function, The 101s Social-Emotional skills, and School Achievement in Preschoolers

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Abstract

Multidisciplinary research in child development has underlined the significance of executive function (EF) development to children's school and life success. Previous research in the 101s positive discipline training program; the U.S. national winning-award program for training parents, teachers, and early childhood educators to promote children's social-emotional and cognitive skills, have showed the positive impact on the parenting practices and children's EF skills in Thailand for years. The current research attempted to further study the impact of the 101s children's training on their EF development. Therefore, this research aimed to investigate the impact of the 101s Storybook program on EF and 101s social-emotional skills, and the correlations among EF, 101s social-emo

tional skills, and school achievement. A quasi-experimental, pre-posttest control group was designed. The sample was 4-year-old children in two classrooms in an elementary school. One classroom (n = 20) was intervention group where the children received the 101s Storybook program, and the other classroom (n = 20) was control group where the children received no intervention. Before and after the program implementation, the teachers of the children were asked to rate the behavior rating inventory of executive function® and the 101s social-emotional checklist. A series of MANCOVA was employed to evaluate the different mean scores of the dependent variables. A bivariate correlation was also performed to evaluate the correlations among the dependent variables. The results showed the positive impact of the 101s Storybook program on children's EF, 101s social-emotional skills, and school achievement. The discussions, limitations, implications and suggestions are discussed.

Keywords: Executive Function, 101s, Storybook, School Achievement

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Introduction

In the 21st century era, children need to master a wide range of academic and life skills in order to success in school, career and life. In response to the global changes and needs, the Ministry of Education in Thailand has announced a national education policy aiming to support the students' psychological growth, critical thinking development, and life-long learning. The education in Thailand is reformed in all academic levels, especially preschool level, since it is the critical period for child development. In recent years, there has been growing interest among researchers in early childhood education and development and neuropsychology in the significance of executive function (EF) development in children's cognitive and social functioning.

EF is higher mental processes that work coordinately in the brain's frontal lobe to help a person to attain a specific goal (Moriguchi & Hiraki, 2013). It is the most important function of the prefrontal cortex in regulating emotions, thoughts, and behaviors through the activation and inhibition of other brain areas (Knight& Stuss, 2002, Shallice, 2002). The processes of the EF begin across childhood and increase in more complexity through middle and high school. There are specific aspects of the EF, including Inhibit, Shift, Emotional Control, Working Memory, and Plan/Organize (Kok et al., 2014). When children entry a new classroom, they need EF skills to operate their thoughts and behaviors to effectively balance their own needs and classroom demands. They have to hold their desires while listening to teachers and working on their own assignments and exhibit when appropriate (inhibit). They have to flexibly switch their thoughts and behaviors when the classroom conditions and activities are changed (shift).

They are required to regulate their emotions and behaviors to interact with the others positively, and completely finish assigned tasks (emotional control). They also need to keep the teachers' directions and classroom' rules in mind (working memory), and find ways to work on assigned tasks accordingly (plan/organize). EF skills validate developmental changes in children's performance over the school years and predict emergent literacy, vocabulary, and math skills (McClelland et al, 2004), and social-emotional, cognitive and academic outcomes later in adolescents (Ellis, Rothbart, & Posner, 2004). Children with poor EF skills are at risk for unsuccessful adaptations to the demands of environments, causing lasting difficulties in social-emotional, cognitive and academic development (Biederman et al, 2004). Although pertinent research indicated that EF skills appear to play an important role in children's social-emotional skills, higher-order thinking processes, and academic achievement across childhood, preschool teachers in Thailand received little instruction in how to promote preschoolers' EF skills.

A series of studies in Thailand came out in attempt to improve main caregivers' practice skills in order to promote children's social-emotional and cognitive skills. The studies indicated that the 101s positive discipline training program; the U.S. national winning-award program for training parents, teachers, and early childhood educators to promote children's social-emotional and cognitive skills, have showed the positive impact on the teaching practices and children's EF skills (Sutipan, Chumchua, Chutabhakdikul, & Thanasetkorn, 2012, Thanasetkorn, Chumchua, & Chutabhakdikul 2015).

The 101s positive discipline training program provides techniques for interacting with children with care and warm. The main objectives of the 101s positive discipline techniques are to respond to a child's psychological needs and to teach and train social-emotional and cognitive skills required to success in relationships with others and academic performance (Masteron, 2008, Thanasetkorn et al., 2015). The 101s positive discipline techniques are divided into 2 categories. First category consists of techniques for emotional support. For example, Validate Principle is used to validate a child's feeling. When using this technique, the child feel that their feeling is heard and mattered to the teacher, and at the same time they also learn the names of their emotions, how to deal with their inner conflict and manage their behaviors accordingly to the classroom expectations. Second category consists of the techniques for behavioral direction.

For example, Choice Principle is used when the teacher wants a child to conduct expected behaviors by offering two acceptable choices to the child. The teacher may says, "Would you like to play 1 minute or 2 minutes before we go to have lunch?" Either the child chooses 1 or 2 minutes, he has to finally conduct the expected behavior (Thanasetkorn, Suttho, Chumchua, & Chutabhakdikul, 2015). Previous research study in the U.S. on the impact of the 101s positive discipline teacher training on teachers' interaction practices and children's prosocial skills found that the teachers in the training group who received the 101s positive discipline teacher training significantly had higher scores on positive interaction practices and their children also significantly had higher scores on prosocial skills, when comparing to the teachers and children in the control group. The findings indicated that after the trained teachers acquired the 101s positive discipline techniques and observed the change in child behavior outcomes, they had more willingness to use positive/responsive interaction approaches (Masterson, 2008).

In Thailand, Thanasetkorn (2009a) conducted a research study with 20 teachers and 164 three- to four-year-old children in two preschools to investigate the impact of the 101s positive discipline teacher training on teachers' interaction practices, teacher-child relationships, children's school adjustment skills, and school achievement. One preschool was assigned to be an intervention group in which the teachers in 3 to 4-year-old classrooms participated in the 101s positive discipline teacher training. The other preschool was assigned to be a control group in which the teachers in 3 to 4-year-old classrooms did not participate in the 101s positive discipline training.

The results showed that the teachers in the intervention group significantly had higher scores on positive interaction practices and lower scores on negative interaction practices, comparing to the teachers in the control group. The results also showed that the teachers in the intervention group rated themselves as having higher scores on positive teacher-child relationships and lower scores on negative teacher-child relationships, comparing to the teachers in the control group. Moreover, the results showed that the children in the intervention group significantly had higher scores on school adjustment skills and school achievement, comparing to the children in the control group. The findings indicated that the 101s positive discipline teacher training significantly had positive impact on the changes in the teachers' interaction practices, the quality of teacher-child relationships, children's school adjustment skills and school achievement (Thanasetkorn, 2009a).

In the same year, Piyavalee Thanasetkorn (2009) conducted a research study on the impact of the 101s positive discipline parent training on parents' interaction practices, the quality of parent-child relationships, children's school adjustment skills, and school achievement with 164 parents and their 164 three-to four-year-old children. The results also showed that the 101s positive parent training had statistically significant impacts on the positive changes in higher positive parents' interaction practices, positive parent-child relationships, and children's school adjustment skills and school achievement. The findings of the research studies suggested that even though this research showed the positive changes in teachers' practices, parents' interaction practices, and children's development, replications of research studies with large sample size and sample in different school districts across the nation were needed for future research (Thanasetkorn, 2009a, Thanasetkorn, 2009b).

In 2012, findings from the research, conducted by Thanasetkorn and colleagues with 11 teachers and 45 three- to five-year-old-children in two preschools to investigate the impact of the 101s positive discipline teacher training on teachers' interaction practices, children's self-regulation and EF skills, showed that the teachers in the 101s training group had significantly higher scores on positive interaction practices and significantly lower scores on negative interaction practices, comparing to the teachers in the control group. The results also showed that the children in the 101s training group had significantly better mean scores on self-regulation skills (Pichitkusalachai, et al. 2012) comparing to children in the control group.

Moreover, in the same study, the researchers also found that the children in the 101s training group significantly had better mean scores on also skills (Thanasetkorn et al., 2015). The findings suggested that the 101s positive discipline teacher training had a significant result in the positive changes in the children's self-regulation and EF skills. Likewise, Suthipan and colleagues (2012) found the consistent results in their research study with 7 teachers and 60 four-to five-year-old children on the impact of the 101s positive discipline teacher training on teachers' interaction practices and children's EF skills. The results showed that the 101s teacher training had a positive impact on the teacher interaction practices and preschoolers' EF skills. The 101s training also resulted in significant correlations between positive teacher interactions and preschools' EF skills. The findings from the previous research suggested that the 101s positive discipline teacher training had a positive impact in teacher interaction practices and EF skills in children in various ages and in different districts (Suthipan et al., 2012).

Besides the research in the teacher training, later in 2013, Thanasetkorn and collogues also found consistent results in their research study on the impact of the 101s positive discipline parent training on parents' interaction practices and children's EF with 54 parents and their 3-to 5-yaer-old children The findings indicated that the 101s positive discipline parent training significantly had impact on the positive changes in the parents' interaction practices and resulted in the improvement of children's EF skills. Even though the previous research had a limitation in small sample size, the researchers attempted to generalize the findings by carefully conducting the research studies in various schools and in different school districts (Thanasetkorn et al, 2015).

Findings from previous research in the impact of the 101s positive discipline in preschools in Thailand indicated that the 101s positive discipline training could be a new promise for effective practices in early childhood education. A growing body of research in the impact of the 101s positive discipline training viewed teachers and parents as the main factor influencing child development, especially their interaction practices. The 101s positive discipline training equipped the trained teachers and trained parents with techniques to respond to the children psychological needs and teach expected behaviors to the children. As a result, the children practiced regulating their emotions and behaviors with warm and responsive care. However, the 101s positive discipline training program was never developed to directly train children. Therefore, this research attempted to develop the 101s positive discipline training program for children and further investigate the impact of the children training program on children's development.

Pertinent research in early childhood education has suggested that children learned well via a storytelling, a book contained scenes in sequent, languages, and gestures, because it offered vivid stories and tangible experiences that helped children to learn and develop. There was a significant evidence from a research study in Iran that the children learned English vocabulary items in story books and consequently, their English vocabulary scores were significantly enhanced (Soleimani & Akbari, 2013). For social-emotional development, Ding (2009) studied 746 stories told by 227 children aged ranged from 33-75 months to examine the content of the stories and gender differences. The results showed that most stories for children contained prosocial behaviors and only few stories contained positive emotions. The results also showed that the stories for girls contained more positive emotion that did the stories for boys. The research suggested that as children needed to learn prosocial behaviors and positive emotions, caregivers could choose stories in prosocial and emotional support themes to help children develop the skills for coping with their feelings and emotions and interacting with the others (Ding, 2009).

Taking from the findings and suggestions of previous research, the researchers composed short stories that offered conflict situations in school and at hom, meaningful dialogues of the 101s techniques, climax, and solutions for children. Thus, this study aimed to examine the impact of the 101s storybook intervention program on EF skills, the 101s social-emotional skills and school achievement in preschoolers. It was hypothesized that children would learn when the 101s techniques were applied in particular situations from the conflict situations of the stories, learn how to use the 101s techniques from the meaningful dialogues of the stories, acquire the 101s social and emotional skills, and gain EF skills.

Methods

Setting and Sample

A quasi-experimental, pre-posttest control group was designed. The sample was 40 four-year-old children in two classrooms in an elementary school. One classroom (n = 20) was intervention group where the children received the 101s Storybook program 3 times a week for 8 weeks. The other classroom (n = 20) was control group where the children received no intervention.

Instruments

Four instruments were used in this study. First, a questionnaire was developed to collect the data of sample background in order to control confounding variables. It contains 2 parts with the total of 16 questions. The first part is the general information of the parent background such as age, ethnicity, status, level of education and income. The second part is the general information of the children background such as gender, age and health.

The second instrument is the 101s social-emotional skills checklist. It was developed by the 101s specialists for teachers to rate the frequency of children's classroom behaviors related to the 8 techniques of the 101s positive discipline and the 6 social-emotional skills. It consists of 30 items with a 5-point likert scale ranging from "Never" to "Always". The101s social-emotional skills checklist was tested for content validity and reliability. The Cronbach's alpha was 0.789, indicating the acceptable level for use.

The third instrument is the Behavior Rating Inventory of Executive Function-Preschool Version (BRIEF-P). The BRIEF-P is the standardized executive function scale, designed for teachers to rate the child's classroom behaviors related to EF behaviors on a 3-point scale ("Never", "Sometimes", and "Often") in term of how often. The BRIEF-P contains 63 items with five non overlapping theoretically and empirically derived clinical scales that measure different aspects of aspect of executive functioning: Inhibition, Shifting, Emotional Control, Working Memory, and Planning/Organizing. These clinical scales yield three composite indexes: the Inhibitory Self-Control Index (ISCI), Flexibility Index (FI), and Emergent Metacognition Index (EMI). The overall composite index is the Global Executive Composite (GEC). In addition, the BRIEF-P includes two scales designed to assess validity of responses (Inconsistency and Negativity)

The last instrument used in this study was the school report card. It is the school's total records of children's school performance in 5 specific areas including Math, English language, Science, Life skills, and Cognitive skills. It reports the child's skills in 3 levels including Below Average, Average, and Above Average.

Intervention

The 101s storybooks were developed for this study and under control of the researcher and 101s specialist. 9 techniques of the 101s positive discipline were chosen to compose 6 social stories. They were also pilot-tested before implementing in the kindergarten classrooms in Pimolwit School. There are 2 steps for implementing the 101s Storybook intervention program in the classroom. The first step is reading the 101s storytelling book to the children. It takes 10 minutes. The children listen to the social story in the 101s storybook in which the characters in the story illustrate when and how to use the 101s techniques. The second step is Summary. It takes 5 minutes. The children discuss about the story with their friends and teacher. The teacher reminds the children how to use 101s techniques in dairy life. The total time is 15 minutes each time. The intervention was implemented 3 times a week for 8 weeks.

Data Collection

1. The informed letters were sent to the faculty of Graduate Studies to get a letter of recommendation. After the ethical permission, the inform letter was sent to target school in this study.

2. After getting the Letter of Recommendation and permission from the faculty of Graduate Studies, the informed letters were sent to the directors of the intervention and control school in order to inform and ask for the permission from the school directors.

3. Having a meeting with the director and teachers of the school to inform the objective, procedures, and schedules for data collections and intervention.

4. The consent forms and questionnaires were sent to the teachers and the parents of the children in order to collect the voluntarily agreement to participate in the research.

5. Before the program implementation, asking the teachers in both intervention and control groups to rate their children's EF skills, using the Behavior Rating Inventory of Executive Function-Preschool Version (BRIEF- P®) and the 101s social-emotional checklist.

6. Implementing the 101s storybook intervention program in the intervention group for 8 weeks.

7. After the program implementation, asking the teachers in both intervention and control groups to rate children's EF skills, using the Behavior Rating Inventory of Executive Function-Preschool Version (BRIEF- P®) and the 101s social-emotional checklist.

8.Collecting the children's report cards at the end of the semester from he teachers.

9. Analyzing the data and Discussing the findings.

10. Implementing the 101s Storybook intervention program in the control group.

Data Analysis

1. Descriptive statistic was used to describe the background of the sample and to match the background of the sample in the intervention and control groups.

2. A series of MANCOVA was used to examine the significantly differences in the changes of pretest and posttest mean scores on EF skills and 101s social emotional skills between intervention group and control group.

3. A series of MACOVA was utilized to examine the significantly mean scores on school achievement between intervention group and control group.

4. A bivariate correlation was utilized in order to investigate the relationships among EF skills, 101s social-emotional skills, and school achievement.

Ethics

This research was approved by the Committee on Human Rights of Mahidol University. The participants indicated their willingness to participate by signing a consent form for human right protection. The participants could ask for any additional information and could stop or withdraw from this study at any time without any affected.

Results

The Impact of 101s Storybook Intervention Program on EF skills

It is important to note that the mean scores on EF skills reflect the misbehaviors related to EF skills. Therefore, low mean score on each subscale shows less misbehaviors and high ability to regulate their appropriate behaviors, and vice versa. In order to quantify the significant changes in EF development, the mean scores on EF posttest were subtracting from the mean scores on EF pretest. A series of MANCOVA was performed to investigate the significant differences between two groups of independent variables on EF subscales. The results showed that the multivariate test for group was significant (F = 23.551, p<.05) (Table 1.).

Table 1. Multivariate Test of BRIEF-P

Effect of Pillai's trace	F	Hypothesis df	P-value
Gender	1.368	5.000	.262
Age child	1.472	5.000	.226
Group	23.551***	5.000	.000

***p< 0.001

The univariate followed-up F-test was performed to examine the effect of independent variables on dependent variables.

The results from that the univariate follow-up F-test for Inhibit development, Shift development, Emotional Control (EC) development, Working memory (WM) development and Plan/Organize (PO) development were significant (F = 33.814, 22.033, 19.043, 103.734, 8.159, p < 0.001, respectively). It indicated that Inhibit development, Shift development, EC development, WM development and PO development were significantly influenced by group (See Table 2.).

Table 2.Univariate F-test of BRIEF-P

Source	Dependent Variable	df	F	P-value
Group	Inhibit development	1	33.814***	.000
	Shift development	1	22.033***	.000
	EC development	1	19.043***	.000
	WM development	1	103.734***	.000
	PO development	1	8.159**	.007

*p <0.05, **p < 0.01, ***p < 0.001

The results from the descriptive statistic of EF subscales showed that the children in the intervention group had significantly higher changes in the pretest to posttest mean scores on executive function subscales including inhibition (M = 6.10, SD = 3.493), shifting (M = 2.45, SD = 1.791), emotional control (M = 3.10, SD = 3.323), working memory (M = 11.85, SD = 3.703) and plan/organize (M = 5.1, SD = 2.125) than did the children in the control group have the changes in the pretest to posttest mean scores on EF subscales including inhibition (M = 0.80, SD = 1.936), shifting (M = - 0.80, SD = 1.881), emotional control (M = 3.10, SD = 3.323), working memory (M = 1.5, SD = 3.069) and plan/organize (M = 3.05, SD = 2.704) (See table 3.).

The findings indicated that the 101s storybook intervention program had a significant impact on children's EF development. Therefore, the children in the intervention group had better changes in EF development in all subscales than did the children in the control group.

Table 3.Descriptive Statistics of executive function subscale

	Group	Mean	Std. Deviation	N
Inhibit development	intervention group	6.10	3.493	20
	control group	.80	1.936	20
	Total	3.45	3.869	40
Shift development	intervention group	2.45	1.791	20
	control group	.25	1.164	20
	Total	1.35	1.861	40
EC development	intervention group	3.10	3.323	20
	control group	-.80	1.881	20
	Total	1.15	3.317	40
WM development	intervention group	11.85	3.703	20
	control group	1.50	3.069	20
	Total	6.67	6.224	40
PO development	intervention group	5.10	2.125	20
	control group	3.05	2.704	20
	Total	4.07	2.615	40

The Impact of The 101s storybook intervention program on The 101s social-emotional skills

In order to quantify the significant changes in the 101s social-emotional development, the mean scores on the 101s social-emotional pretest were subtracting from the mean scores on the 101s social-emotional posttest. A series of MANCOVA was performed to investigate the significant differences between two groups of independent variables on the 101s social-emotional subscales. The result showed that the multivariate test for group was significant (F = 48.992, p < .001) (See Table 4.).

Table 4.Multivariate Test of 101s social emotional skills

Effect of Pillai's trace	F	Hypothesis df	P-value
Gender	2.259	6.000	.063
Age child	0.241	6.000	.959
Group	48.992***	6.000	.000

***p< 0.001

The univariate follow-up F-test for Identifying Feeling on Oneself and Others Development, Controlling Anger and Impulses Development, Understanding How and When to Apologize Development, Problem Solving Development, Taking Turn Development and Sharing Toys and Other Materials Development were significant (F = 198.841, 15.646, 3.672, 107.121, 20.414, 40.359, p > 0.001, respectively).

It indicated that the 101s social-emotional skills were significantly influenced by group (See Table 5.)

Table 5. Univariate F-test of 101s social emotional skills

Source	Dependent Variable	df	F	P-value
Group	Identify feeling development	1	198.841***	.000
	Controlling anger development	1	15.646***	.000
	Apologize development	1	3.672	.063
	Problem Solving development	1	107.121***	.000
	Taking turn development	1	20.414***	.000
	Sharing development	1	40.359***	.000

***p< 0.001

The results from the descriptive statistic of 101s social emotional skills showed that the children in the intervention group had significantly higher changes in the pretest to posttest mean scores on the 101s social emotional skills including Identifying Feeling on Oneself and Others development (M = 14.65, SD = 2.183), Controlling Anger and Impulses development (M = 8.45, SD = 2.188), Understanding How and When to Apologize development (M = 1.80, SD = .523), Problem Solving development (M = 12.65, SD = 2.455), Taking Turn development (M = 4.35, SD = 1.309), and Sharing Toys and Other Materials development (M = 2.15, SD =.366) than did the children in the control group have the changes in the pretest to posttest mean scores on 101s social emotional skills Including Identifying Feeling on Oneself and Others development (M =5.15, SD = 2.003), Controlling Anger and Impulses development (M = 5.85, SD = 2.134), Understanding How and When to Apologize development (M = 1.50, SD = .513), Problem Solving development (M = 5.50, SD = 1.850), Taking Turn development (M = 2.65, SD = .988), and Sharing Toys and Other Materials development (M = 1.30, SD = .470) (See Table 6.).

The findings indicated that the 101s storybook intervention program had a significant result in the children's 101s social emotional development. Therefore, the children in the intervention group had better changes in the 101s social emotional development in all subscales than did the children in the control group.

Table 6.Descriptive Statistics of 101s social emotional skills

	Group	Mean	Std. Deviation	N
Identify feeling development	intervention group	14.65	2.183	20
	control group	5.15	2.033	20
	Total	9.90	5.242	40
Controlling anger development	intervention group	8.45	2.188	20
	control group	5.85	2.134	20
	Total	7.15	2.507	40
Apologize development	intervention group	1.80	.523	20
	control group	1.50	.513	20
	Total	1.65	.533	40
Problem solving development	intervention group	12.65	2.455	20
	control group	5.50	1.850	20
	Total	9.08	4.209	40
Taking turn development	intervention group	4.35	1.309	20
	control group	2.65	.988	20
	Total	3.50	1.432	40
Sharing development	intervention group	2.15	.366	20
	control group	1.30	.470	20
	Total	1.73	.599	40

The correlations among children's Executive Function, the 101s social-emotional skills and school achievement

In order to determine the relationships between children's social-emotional and cognitive skills, a bivariate correlation was performed to investigate the significant correlations among the total mean scores on BRIEF-P, social-emotional skills, and school achievement. The results showed the significant relationships among EF skills, 101s social-emotional skills, and school achievement.

In Table 7., the result showed that there were significantly negative correlations between EF skills and social-emotional subscale checklist (r = -0.613, p < .001), meaning that the children who had lower mean scores on EF tended to have higher means scores on the 101 social-emotional skills. It was important to note again that the mean scores on EF skills reflect the misbehaviors related to EF skills. Therefore, the lower mean scores mean the less misbehaviors and higher abilities to conduct appropriate behaviors. Therefore, the result indicated that the children with better EF skills were more likely to gain the 101s social-motional skills. However, the result showed there were no significantly correlations among EF skills, the 101s social-emotional skills, and school achievement, indicating that EF skills and the 101s social-emotional development in the current study did not relate to children's school achievement.

Table 7. The correlation among children's Executive Function, the 101s social-emotional skills and school achievement

		EF	Social	Achievement
EF	Pearson Correlation	1	-.613**	-.430
	Sig. (2-tailed)		.004	.059
	N	20	20	20
Social	Pearson Correlation	-.613**	1	.426
	Sig. (2-tailed)	.004		.061
	N	20	20	20
Achievement	Pearson Correlation	-.430	.426	1
	Sig. (2-tailed)	.059	.061	
	N	20	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

Discussion

The current study investigated the impact of the 101s storybook intervention program on executive function, the 101s social-emotional skills and school achievement in preschoolers. The children in the intervention group who received 101s storybook program, significantly had higher changes in the mean scores on all subscales of EF; including Inhibition control, Shift, Emotional control, Working memory and Plan/Organize, comparing to the children in the control group (See Figure 1.). The findings of this research were consistent with previous research in the 101s positive discipline training to promote children's EF development. The children in the intervention group were more likely to control their emotions and regulate their behaviors to meet the classroom's rules and expectations. The findings in this research suggested that 101s storybook intervention program could promote children's EF skills.
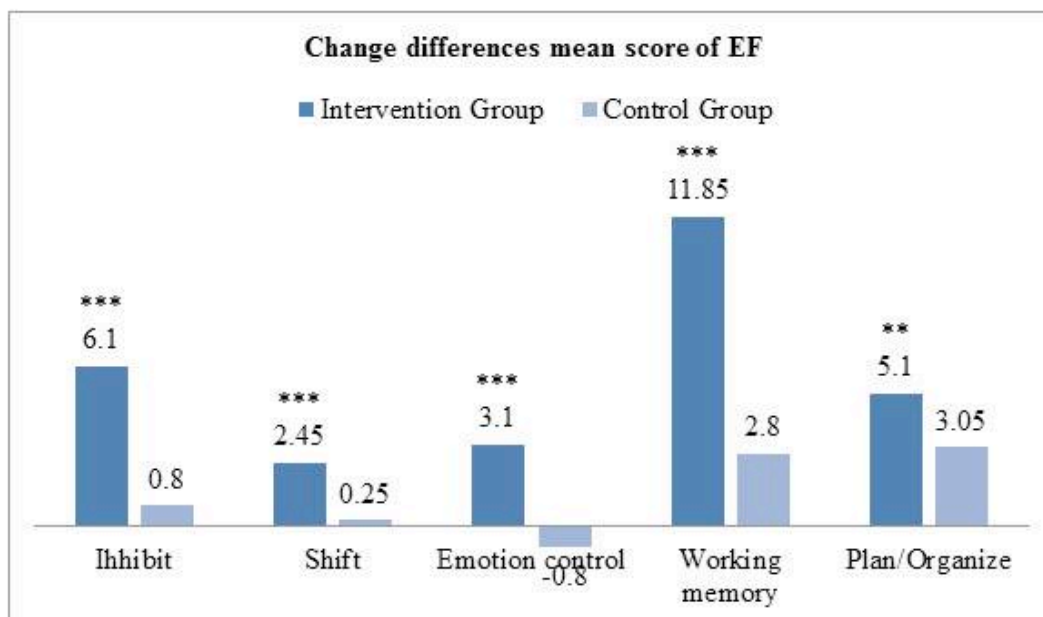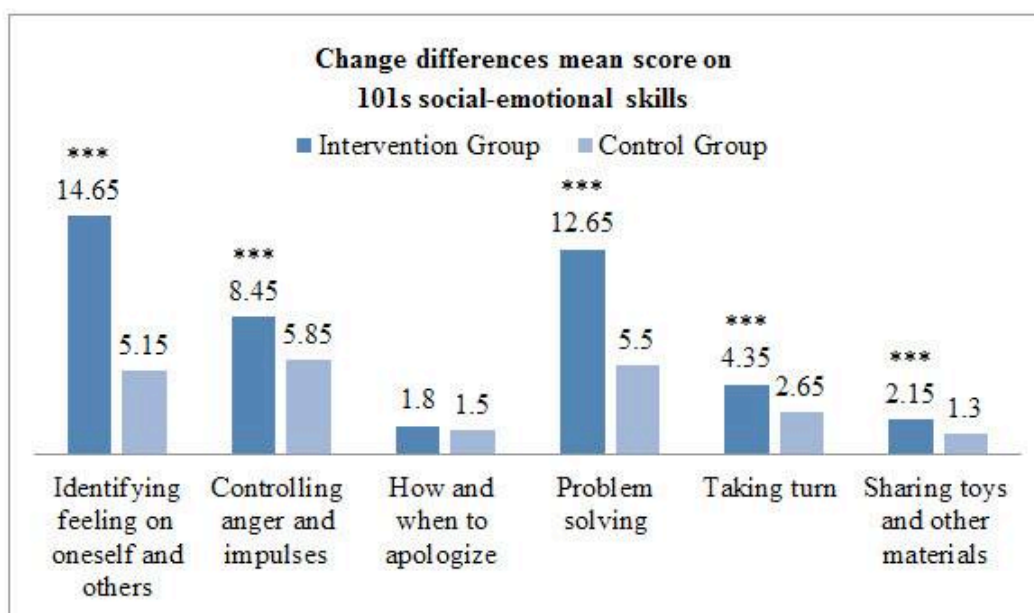
Figure 1: Change differences mean score of EF

Moreover, for the 101s social-emotional skills, the children in the intervention group significantly had higher scores on the changes in all subscales of the 101 social-emotional skill mean scores on Identifying Feeling on Oneself and Others development, Controlling Anger and Impulses development, Problem Solving development, Taking Turn development and Sharing Toys and Other Materials development, comparing to the children in the control group (See Figure 2.). The findings indicated that the 101s Storybook intervention program helped children to gain social-emotional and EF skills. It could be possibly explained that the 101s storybooks explicitly combined the 101s techniques to the stories. Soleimani & Akbari (2013) explained that storytelling allowed children to listen, process, and reproduce the stories. Children's social-emotional cognitive were promoted by retelling and remembering the plot of the story.

As a result, the children could apply the 101s techniques containing in the 101s Storybooks in the real situations in their classroom and acquire the 101 social-emotional skills. For example, one of the 101s Storybooks illustrated "Choice Principle" technique by having the character in the story express his feeling that he did not want to share the toy to his friend because he was still playing and he was afraid that his friend would not return him the toy. Then, he came out with the "Choice Principle". He asked his friend, "Would you like to play the toy 2 or 3 minutes before you give me back?" It was evident that the teachers in the intervention group rated their children on the 101s social-emotional skill checklist as often to usually used the "Choice Principle" when they were dealing with sharing situations. They reported that the children used the Choice Principle technique when their friends asked them to share the toy they were playing, and when they wanted to asked their friends to share them the toy. The finding from this research suggested that the 101s Storybook was an effective media facilitating children to understand the 101s techniques via the stories and pictures.

In addition, the result also showed the significantly negative correlation between the EF skills and the 101 social emotional skills. The results were consistent with the previous research conducted by Ellis et al. (2004). Findings from the previous research suggested that EF skills were related to social-emotional skills. In this research, it could be possibly explained that the 101s positive discipline techniques learned from the 101s Storybooks facilitated the children to control their emotions and regulate their behaviors.

As they used the 101s techniques, they exercised their emotional control and planed which techniques and how they would use the techniques to solve the problems. As a result, they acquired the 101s techniques. While using the 101s techniques, the children illustrated the 101s social-emotional skills and conducted less disruptive behaviors to the teachers. Therefore, it could be concluded that the 101s Storybook intervention program could equipped the children with the 101s positive discipline techniques to deal with the classroom situations that helped them to develop the 101s social emotional skills and EF skills.

Figure 2: Change differences mean score on 101s social-emotional skills

For children's school achievement, the findings from this research showed that the children's school achievement was not significant correlated to the EF skills and the 101s social-emotional skills. The findings were not consistent with previous research conducted by McClelland et al. (2007) in predictive relations between preschoolers' behavioral regulation and emergent literacy, vocabulary, and math skills.

The findings suggested that children's social-emotional and cognitive skills could predict children's academic performance over the school year. It could be explained that this research was conducted in the short period of time. The intervention was implemented only 8 weeks so that children's academic performance that normally developed over the school year could not be observed.

Conclusion and Recommendation

The results showed the positive impact of the 101s Storybook program on children's EF and 101s social-emotional skills. It also showed the evidence of significant correlations between EF skills and the 101s social-emotional skills. The phenomenon could be explained that the 101s Storybook intervention program was an effective media for children's learning. The children were stimulated through vivid story and pictures so that the children were able to understand the 101s techniques illustrated by the characters in the 101s storybooks. Moreover, the development also occurred through socially mediated interactions with their peers and teachers.

As a result, the children had a chance to exercise the 101s techniques and were able to learn social expectations and conduct appropriate behaviors related to EF skills. The findings of the research suggested that the 101s Storybook intervention program could be an alternative way to promote children's EF skills and the 101s social-emotional skills. Because this research was the first research attempted to investigate the impact of children training via storybooks on children's EF skills and 101s social-emotional skills, a replication of research with large sample groups or different ages and sample background is suggested for future research in order to support the educational reform in preschool level and to reach the goal of the national policy.
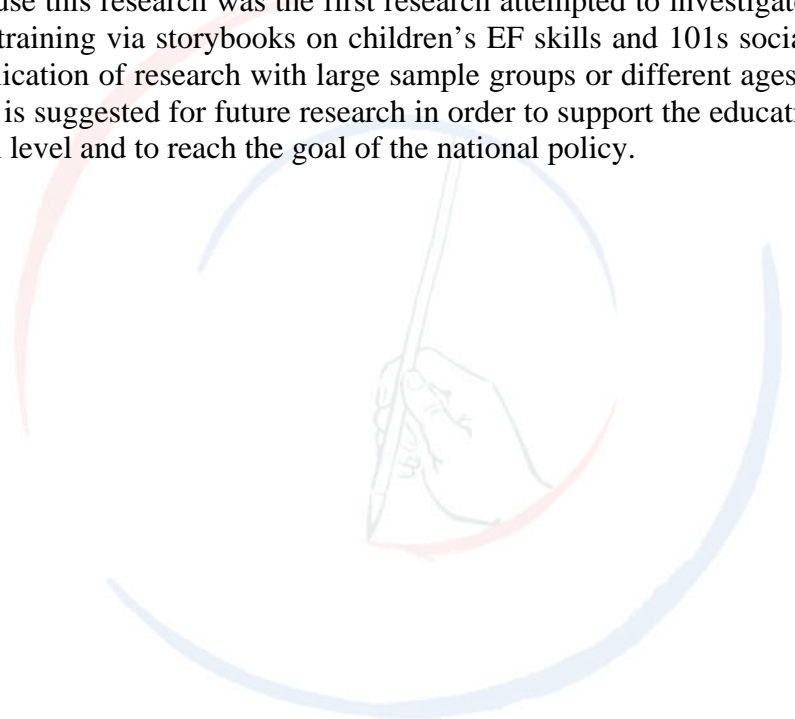
References

Biederman, J., Monuteaux, M.C., Doyle., A.E., Seidman, L.J., Wilens., T.E., Ferrero, F., Faraone, S. V. (2004). Impact of executive function deficits and attention_deficit hyperactivity disorder (ADHD) on academic outcomes in children. *Journal of Consulting and Clinical Psychology, 72*(5), 757-766.

Ding, B. (2009). Prosocial behavior and emotions in preschool storytelling. (Master thesis). Department of Family and Consumer Studies The University of Utah.

Ellis, L.K., Rothbart, M.K., & Posner, M.I. (2004). Individual differences in executive attention predict self-regulation and adolescent psychosocial behaviors. *Annals of the New York Academy of Science, 1021*, 337-340.

Knight, R., & Stuss, D., (2002). Prefrontal cortex: The present and the future. In D. Struss & R. Knight (Eds.), *Principles of frontal lobe function* (pp. 573-597). New York: Oxford University Press.

Kok, R., Lucassen, N., Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., Ghassabian, A., Roza, S. J., Tiemeier, H. (2014). Parenting, corpus callosum, and executive function in preschool children. *Child Neuropsychol, 20*(5), 583-606. doi: 10.1080/09297049.2013.832741.

Masterson, M. L. (2008). The impact of The 101s: A Guide to Positive Discipline training on teacher interaction practices, attitudes and prosocial skill outcomes in preschool classroom. (Doctoral dissertation). Old Dominion University, USA. Available from ProQuest Dissertations & Theses database. (UMI No. 3348343).

McClelland, M. M., Cameron, C. E., Connor, C. M., Farris, C. L., Jewkes, A. M., & Morrison, F. J. (2007). Links between behavioral regulation and preschoolers' literacy, vocabulary, and math skills. *Developmental Psychology, 43,* 947-959.

Moriguchi Y., & Hiraki K. (2013). Prefrontal cortex and executive function in young children: a review of NIRS studies. *Frontiers in Human Neuroscience, 7*(867). Doi: 10.3389/fnhum.2013.00867

Pichitkusalachai P., Thanasetkorn P., Chumchua V., Chutabhakdikul, N. (2012). Self-regulation in Thai preschoolers: The Impact of the 101s positive discipline teacher training on teacher interaction practices and children's self-regulation. *Proceedings: The 1st ASEAN Plus Three Graduate Research Congress.* Paper Presented at The 1st ASEAN Plus Three Graduate Research Congress, Chiang Mai, Thailand (pp. SS-19 – 24). Chiang Mai: The 1st ASEAN Plus Three Graduate Research Congress.

Soleimani, H. & Akbari, M. (2013). The effect of storytelling on children's learning English vocabulary: A Case in Iran. *International Research Journal of Applied and Basic Sciences, 4* (11), 4005-4014.

Sutipan, P., Chumchua, V., Chutabhakdikul N., & Thanasetkorn, P. (2012). The impact of the 101s positive discipline teacher training on teacher practices and preschoolers' executive function skills. *Proceedings: The 1st ASEAN Plus Three*

Graduate Research Congress. Paper Presented at The 1st ASEAN Plus Three Graduate Research Congress, Chiang Mai, Thailand (pp. SS-1 - 7). Chiang Mai: The 1st ASEAN Plus Three Graduate Research Congress.

Thanasetkorn, P. (2009a). The Impact of The 101s: A Guide to Positive Discipline parent training: A case study of kindergarteners and their parents in Bangkok, Thailand. (Doctoral dissertation). Old Dominion University, USA. Available from ProQuest Dissertations & Theses database. (UMI No. 3391762)

Thanasetkorn, P. (2009b). The Impact of The 101s: A Guide to Positive Discipline parent training: A case study of kindergarteners and their parents in Bangkok, Thailand. (Doctoral dissertation). Old Dominion University, USA. Available from ProQuest Dissertations & Theses database. (UMI No. 3391761).

Thanasetkorn, P, Chumchua, V., & Chutabhakdikul, N. (2015) The new trend of discipline practices in Thailand: The 101s positive discipline intervention program for promoting positive-teaching practices and child's executive function development. *INTED2015 Proceedings*, pp. 6146-6155.

Thanasetkorn, P, Suttho, J., Chumchua, V., & Chutabhakdikul, N. (2015). The preliminary research study on the impact of the 101s: A Guide to Positive Discipline Parent Training on parenting practices and preschooler's executive function. *Asia-Pacific Journal of Research in Early Childhood Education,* 9(1), 65-89.

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Psychological Well-Being among Gifted Students at the National Gifted Center in Malaysia

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Abstract

Psychological well-being refers to how people evaluate their lives. According to Diener (1997), these evaluations may be in the form of cognitions or in the form of effect. The cognitive part is an information-based appraisal of one's life, that is when a person gives conscious evaluative judgments about one's satisfaction with life as a whole. The effective part is a hedonic evaluation guided by emotions and feelings, such as frequency with which people experience pleasant/unpleasant moods in reaction to their lives. The assumption behind this is that, most people evaluate their life as either good or bad, so they are normally able to offer judgments. In addition, people invariably experience moods and emotions, which have a positive effect or a negative effect. Thus, people have a level of subjective well-being even if they do not often consciously think about it, and the psychological system offers virtually a constant evaluation of what is happening to the person. In this paper we have defined psychological well-being in terms of internal experience of the respondents and their own perception of their lives. This research focused both on momentary moods and long term states of the respondents' mental well-being. Besides that, the purpose of this study is to identify the level of psychological Well-being among Gifted Students in PERMATApintar[TM] National Centre, National University of Malaysia. A total of 61 gifted students participated in this study using a questionnaire as a research tool. The analysis showed that the level of psychological Well-being among Gifted Students at the National Gifted Center is moderate. The implications are also revealed at the end of the discussion.

Keywords : psychological well-being, gifted students, gender, ethnicity

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Introduction

There are two contrasting views about the psychological well-being of gifted children: that giftedness enhances resiliency in individuals, and that giftedness increases vulnerability. There is empirical and theoretical evidence to support both views.

There is a long history of interest in how giftedness affects psychological well-being. As stated earlier, two conflicting views prevailed. The first is that gifted children are generally better adjusted than their non-gifted peers; that giftedness protects children from maladjustment. This view hypothesized that the gifted are capable of greater understanding of self and others, due to their cognitive capacities, and therefore, cope better with stress and conflicts than their peers.

The second view is that, gifted children are more at risk for adjustment problems than their non-gifted peers, that giftedness increases a child's vulnerability to adjustment difficulties. The hypothesis is that, the gifted are more sensitive to interpersonal conflicts, and experience greater degrees of alienation and stress than do their peers, as a result of their cognitive abilities. (Baker,1995; Jacobs, 1971; Kaiser, Berndt, & Stanley, 1987; Neihart, 1991; Ramasheshan, 1957; Scholwinski & Reynolds, 1985). Thus, this study gives insights into the psychological well-being of the gifted students at the National Gifted Center in Malaysia.

Psychological Well-being

Psychological well-being is defined as happiness, life satisfaction, and self-growth. It is about lives going well. It represents one of the most important aspects of efficient psychological functioning. In other words, psychological well-being refers to how people evaluate their lives. It is the combination of feeling good and functioning effectively. Research reveals that happy people experience a number of benefits ranging from physical health to better relationships to high level performance. Hence, people with high psychological well-being are reported to feel happy, capable, well supported and satisfied with life.

Theory and research have identified two aspects of well-being. The first aspect of well-being can be defined as the person's general happiness with his or her life (hedonic well-being), while the second one is concerned with self-realization or personal growth (eudaimonic well-being) (Ryff & Keyes, 1995). Both aspects of well-being are said to be related. However, this study focuses only the hedonic aspect of the gifted students at the National Gifted Center in Malaysia.

Gifted Students

Gifted students have always been considered as students who are at the upper end of the bell curve in academic abilities. At this upper end, the bell curve tail can continue for a considerable distance, representing increasingly extreme difference (Peterson, 2006). Gifted students grasp complex mathematical or scientific concepts with ease and exhibit creative and innovative work in many ways. They can concentrate for a long period on topics of their interest. They are not easily distracted, set high standard for themselves and enjoy intellectual challenges (Noriah & Abu Yazid, 2010).

According to Neihart, Reis, Robinson and Moon (2002), gifted students show initiative, originality and flexibility in thinking, with the ability to consider problems from multiple perspectives, responsive to new ideas and often show social poise or an ability to communicate with adults in a mature way. Children and youth possessing these abilities can be found in all populations across all economic strata.

National Gifted Center in Malaysia

Pusat PERMATApintar Negara (PPpN) is the national center of excellence for Malaysian academically gifted children, which has been launched in early 2009. The holistic aim for its establishment is to develop a comprehensive educational program that would be responsible to foster positive growth of the nation's gifted students, in terms of physical, emotional, intellectual and social aspects (Noriah, Rosadah & Siti Rahayah, 2009). The setting up of PPpN is a sign of commitment from the government of Malaysia to strengthen its national policy on special education which in turn should benefit the country in the long run.

According to Clark (2005) and Claxton (2003), for every 100,000 children, there is one gifted child. In the local context, Malaysia has 4.5 million children from the age group of 9 to 15 years old (Noriah, Rosadah & Siti Rahayah, 2009); hence, Malaysia would have 4500 gifted children within that age group for any particular year that need academic and psychological support from the present education system.

Problem Statement

Various research in the field of education found that children with higher level of intelligence face adjustment problems compared to their non-gifted peers. Adjustment refers to an individual's pattern of responding to environmental demands. Persons with positive adjustment are able to cope effectively with the demands of life. Persons with negative adjustment have maladaptive coping strategies or lack coping skills to deal effectively with stress. The finding that high ability (typically defined as high IQ) individuals demonstrate superior adjustment is supported by empirical research (Freeman, 1p83; Kaufmann, 1981). Grossberg and Cornell (1988) also found a positive correlation between high intelligence and adjustment.

Research Objective

General objective
This study aims to identify the level of psychological well-being among gifted students at the national gifted center in Malaysia.
Specific objectives
The specific objectives of this study are :

a)   To identify the level of psychological well-being among gifted students in terms of social and emotional adjustment , based on gender.
(b)   To identify the level of psychological well-being among gifted students in terms of social and emotional adjustment , based on ethnicity.

Research Questions

a)　　What is the level of psychological well-being among gifted students at the National Gifted Center, National University of Malaysia?

b)　　Is there any difference in terms of gender, in the level of psychological well-being among gifted students at the National Gifted Center, National University of Malaysia?

c)　　Is there any difference in terms of ethnicity, in the level of psychological well-being among gifted students at the National Gifted Center, National University of Malaysia?

Research Hypothesis

The hypothesis of this study is formed based on the above research questions.

H a)　　The level of psychological well-being among gifted students at the National Gifted Center, National University of Malaysia, is high.

H b)　　Both genders, male and female show similar social and emotional adjustment, thus indicate the high level of psychological well-being among gifted students at the National Gifted Center, National University of Malaysia.

H c)　　All ethnicity, Malay, Chinese and Indian show similar social and emotional adjustment, thus indicate the high psychological well-being among gifted students at the National Gifted Center, National University of Malaysia.

Research Design

The study is conducted using quantitative research.

Location of Study

Research site is at PERMATApintar National Gifted Center, National University of Malaysia.

Samples Review

Samples were selected by purposive sampling. This is based on the opinion of Chua Yan Piaw (2012) that purposive sampling (purpose sampling) refers to the sampling procedure in which a group of subjects that have certain characteristics are chosen as respondents. Accordingly, this research uses purposive sampling in which only gifted students were selected as respondents for the study using one set of questionnaires on psychological well-being.

Data Collection

Quantitative method based on questionnaires was used in this study.

Data Analysis

The data collected was processed using the program of Statistic Package for Social Science (SPSS), and then analyzed using descriptive statistics and statistical

inference. Descriptive statistics used were mean, standard deviation, and percentage; while statistical inference used were t-test and ANOVA.

Findings

a)   Level of psychological well-being among gifted students at the National Gifted Center , National University of Malaysia

Researcher used descriptive analysis in order to obtain the research outcome of the psychological well-being among these gifted students. Therefore, the following table gives an overview of the research data which contains basic statistical functions.

Table 1   Descriptive of level of psychological well-being among gifted students

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Psychological well-being	61	148.00	228.00	195.98	17.414
Valid N (listwise)	61				

Based on   Table 1, the   minimum score   is 148 while the maximum score is 228.Apart from that, the mean score for the level of psychological well-being among these gifted students is at   (M = 195.98, SP = 17.414) which is at the average level of interpretation.

b)   Difference in the level of psychological well-being among gifted   students based on gender

H_{o1}: There is no significant difference in the psychological well-being among gifted students based on gender.

To answer the above hypothesis, *Independent t test* was conducted to identify the differences in the psychological well-being among gifted students based on gender. The analysis findings of the *Independent t test* is shown in Table 2.

Table 2 *Independent t test* difference in the level of psychological well-being among gifted students based on gender

Gender	N	Mean	Std. Deviation	T value	df	sig. (p)
Male	26	194.35	17.584	-0.630	59	0.531
Female	35	197.20	17.442			

Based on Table 2, the difference in the level of psychological well-being among gifted students based on gender is (t= -0.630, p<0.05). This is in accordance to Ho1, that is, there is no difference in the level of psychological well-being among gifted students based on gender. However, the mean score of female students (Mean = 197.20, SD = 17.442) is slightly higher than the mean score of male students (M = 194.35, SD = 17.484).Nonetheless, this slight difference does not portray significant

difference in the level of psychological well-being among gifted students in the National Gifted Center, National University of Malaysia, in terms of gender.

c)   Difference in the psychological well-being among gifted students based on ethnicity

H_{o2}: There is no significant difference in the psychological well-being among gifted students based on ethnicity.

To answer the above hypothesis, a one-way ANOVA test was conducted to identify the difference in the level of psychological well-being among gifted students based on ethnicity. SPSS was used to obtain the results of the research. The finding of one-way ANOVA can be seen in Table 3.

Table 3 Mean and Standard Deviation Difference in Psychological Well-being among Gifted Students based on Ethnicity

Ethnicity	N	Mean	Std. Deviation
Malay	39	194.08	17.558
Chinese	13	193.08	16.312
Indian	4	204.75	15.945
Others	5	211.40	13.939
Total	61	195.98	17.414

According to Table 3, students of minority race had the highest level of psychological well-being (M = 211.40, SD = 13.939), followed by Indian students (M = 204.75, SD = 15.945). The Chinese students had an average level of psychological well-being that is (M = 193.08, SD = 16.312), whereas Malay students had the lowest level of psychological well-being (M = 194.08, SD = 17.558).

This is clearly portrayed in the one-way ANOVA analysis shown in the following table.

Table 4 Difference in Level of Psychological Well-being among Gifted Students based on Ethnicity

	df	Sum of Squares	Mean Square	F	sig. (p)
Between Groups	3	1747.341	582.447	2.018	0.122
Within Groups	57	16447.642	288.555		
Total	60	8.237			

Analysis of one-way ANOVA as shown in Table 4 signifies that there is no difference in the level of psychological well-being among gifted students based on ethnicity, value of (p = 0.122> 0.05). Findings showed null hypothesis could not be rejected. Hence, there is no significant difference in the level of psychological well-being among gifted students in National Gifted Center, National University of Malaysia, in terms of ethnicity.

Conclusion

In this study, several conclusions can be made based on the analysis of SPSS. The findings show that the level of psychological well-being among gifted students at the National Gifted Center is moderate. This is measured by looking at the social and emotional adjustment made by most students. Majority of the students are aware of their surrounding and engage more in 'happiness-relevant activities'. In addition, being male or female, or being a Malay, Chinese or Indian student, does not affect the psychological well-being of these students. Together they live and learn and seek knowledge to achieve their goals in becoming future leaders of the nation.

Limitation of Study

This study involved only 61 gifted students of National Gifted Center, National University of Malaysia, due to time constraint.

Recommendation for Future Research

A wider range of students with different age level are encouraged to participate in the study. In this way, we can see whether or not there is a difference in the level of psychological well-being among these students.
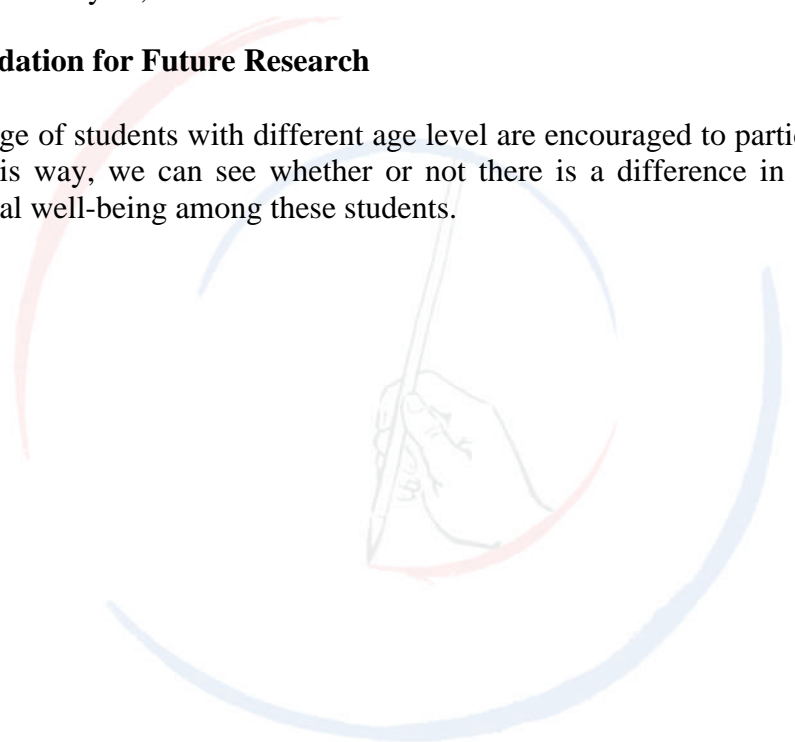
References

Baker, J.A. (1995). *Depression and suicidal ideation among academically talented adolescents.* Gifted Child Quarterly

Clark, G. (2005). *Performance management strategies.* London. SAGE

Claxton, G. (2003). *A perspective on creativity.* London. SAGE

Diener, E. (1997). *Subjective well-being : The science of happiness and a proposal for notional index.* PubMed Abstract

Freeman, I. (1983). *Emotional problems of the gifted child.* Journal of Child Psychology and Psychiatry

Grossberg, I.N. & Cornell, D.G. (1988). *Relationship between personality adjustment and high intelligence* : Terman versus Hollingworth, Exceptional Children

Jacobs, J.C. (1971). *Roschach studies reveal possible misinterpretation of personality traits of gifted students.* Journal of Personality Assessment

Kaiser, C.F., Berndt, D.J. & Stanley, G. (1987). *Moral judgement and depression on gifted adolescents.* Paper presented at the 7th World Conference on Gifted and Talented Children, Salt Lake City, Utah

Kaufman, F. (1981). *The 1964-1968 Presidential Scholars : A follow up study :Exceptional Children*

Neihart, M. (1991). *Anxiety and depression in high ability and average ability adolescents* (Doctoral Dissertation : University of Northern Colorado, 1991). Dissertation Abstracts International

Neihart, M., Reis, S., Robinson, N. & Moon, S.M., (Eds). (2002). *The social and emotional development of gifted children : What do we know?* Waco, Tx : Prufrock

Noriah M.I. & Abu Yazid A.B. (2010). *Psychological issues and the need for counseling services among Malaysian gifted students.* Procedia-Social and Behavioral Sciences (In-print)

Noriah, M.I., Rosadah, A.M. & Siti Rahayah, A. (2009). *Sejarah dan konsep PERMATApintar. In Noriah M.I., Rosadah, A.M & Siti Fatimah M.Y. (Eds) PERMATApintar : Pengalaman UKM* : Bangi, UKM

Peterson, C. (2006). *A primer in positive psychology.* Oxford University Press

Ramasheshan, P.M. (1957). *The social and emotional adjustment of the gifted.* (Doctoral Dissertation, Lincoln, Nebraska). Dissertation Abstracts International

Ryff, C.D. & Keyes, C.L.M. (1995). *Journal of personality and social psychology,* Vol 69(4), 719-727

Scholwinski E. & Reynolds C.R. (1985). *Dimensions of anxiety among high IQ children.* Gifted Child Quarterley, 29. 125-130

Customer Behavior & Marketing Mix Factors as they Relate to the Selection of Thai Massage Providers

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Asian Conference on Psychology and Behavioral Sciences 2015
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Abstract

"Traditional Thai Massage" plays vital role in assisting Thailand to become medical hub of Asia because of its distinguished uniqueness of Thai medical /alternative treatment. Country Competitiveness derives from many factors including Demand Condition, which brings better level of national advantage. Local people give financially support, and are fundamentally important to the business development to innovate faster and continuous evolving over time.

The research focused and investigated whether there is a relationship between knowledge, attitude and behaviors of Thai customers in relation to Thai Massage consumption and selection, however this article will focus on revealing what should be built, enhanced and sustained for the Thai Massage entrepreneurs in order to gain customers' satisfactions, based on 7P's elements of marketing mix. A quantitative/exploratory research design was used. Using an evaluation of the literature and an exploratory study, appropriate constructs and instruments were developed and then used interview survey involving approximately 480 Thais.

The result, apart from the customer behaviors of traditional Thai massage revealed, will benefit in addressing effective 7P's strategy encouraging national demand which then strengthen local business competitiveness, and then contribute to country's competitiveness to become Medical Hub of Asia.

Keywords: Consumer Behavior, Country Competitiveness, Diamond Model, Traditional Thai Massage

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Introduction

According to Thailand Competitiveness Report 2012, the economic statistics from National Economic and Social Development Board or NESDB stated that 40 percent of average national GDP (from year 2007-2011) comes from Manufacturing sector, while 39 percent stemmed from Trade and services sectors. (Royal Thai Government, Subcommittee on Content Development for World Economic Forum on East Asia, 2012) It ensures that service industry bring Thailand's economy forward and enhance country standards of living and prosperity. The Ministry of Public Health estimates that Health/ Medical Tourism revenues are on the rise as Thailand become medical tourism destination, attracting more visitors/ patients, not only from regional tourists but from all over the world. It was demonstrated that in 2012, the direct revenue from medical/ health tourism reach THB 80 billion (USD 2.7 billion), with an annual growth between 5.5 to 7.0% in revenue. Moreover, Thailand also benefits from revenue generated from of persons accompanying patients.

Small businesses are found in every sector of the economy and play a vital role in the momentum of the whole economy. In both developed and developing countries, small businesses are crucial for sustained, dynamic long-term growth and employment growth. From Thailand's National Statistics Office   reported that in service industry 98.4 percent of business are small business. Along with increasing attention in medical/health service industry development, the opportunity brought about by globalization and the economic boom, have encouraged the Thai government to support the operation of small businesses in order to add wealth and stability to the Thai economy. There are many programs and policies implemented by government agencies in order to promote and strengthen the SMEs development (ACTETSME, n.d). This insists the importance of this study as most of traditional Thai massage business are small sized.

The Royal Thai government (2012) by the Ministry of Public Health is responsible for the promotion, development and devising a second Strategic Plan (2012-2016) for Thailand's medical tourism continues, to be a growth industry with the considerable strengths and opportunities, position itself to become the medical hub of Asia. Thailand has the most superior advanced treatment providers with ability to deliver world-class quality and extremely affordable treatment, whilst significant improvements in related fields are being created. "Health Promotion" which includes spas and Thai massage is identified as one of the fundamental elements in "Product of Excellence" plan that must be focused in order to deliver more income-earning

opportunities, positive impact of value-added services and knowledge-based products on national health care industry as a whole. However, there are obstacles as Malaysia and Singapore become main competitors and the royal Thai government seems to be ineffective in acknowledge Thais the usefulness of Thai Massage hence possibly causes national demand/market failure.

From the literature, the theoretical framework was developed from a review of the literature. The framework was established based on the four parent disciplines. They are Knowledge and Attitude, Consumer Behavior, Porter's Diamond Model of Country Competitiveness (Demand Condition) and 7P's of Marketing Mix. The research findings often link level of knowledge and attitude which then affects one's purchasing behavior. In this article, the researcher will demonstrate part of those disciplines which are Customers' Behavior and the marketing mix elements for Traditional Thai Massage business. The result, apart from the usefulness of Thai massage revealed, will benefit in addressing effective 7P's strategy encouraging national demand, strengthen local business competitiveness and contribute to country's competitiveness to become Medical Hub of Asia.

As indicate above, the objectives of this article are to:
- identify reasons and to investigate the usage behavior of Traditional Thai massage customers.
- investigate the extent to which any of the marketing mix (seven P's) could be used in Traditional Thai Massage entrepreneurs contribute to the satisfaction and selection of customers.

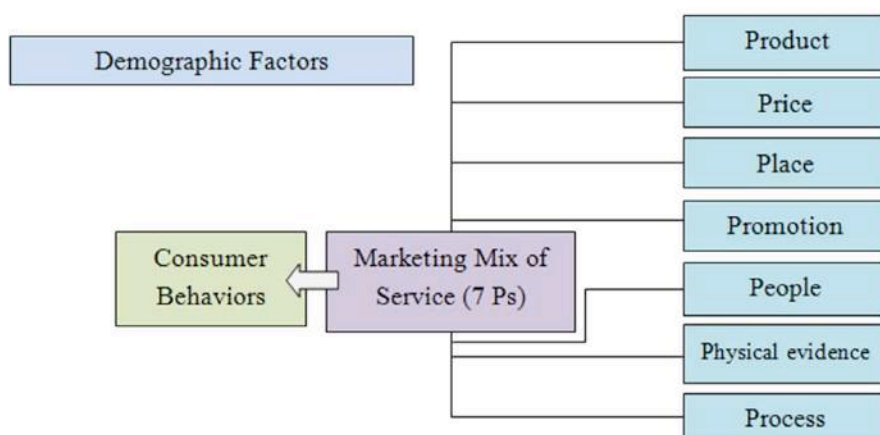Therefore, the framework in this article was demonstrated below:

Figure 1 Theoretical Framework for this article

It is crucial for entrepreneurs to gain customers insight which could then enhance their ability to response to their customer and could develop their offerings effectively. (Arnould, Price and Zinkhan, 2004) Therefore, in order to succeed in Traditional Thai Massage business, the entrepreneurs needs to understand the target market's needs, wants and their demand. Consumer behavior is defined as *"individuals or groups acquiring, using and disposing of products, services, ideas, or experiences."* (Arnould et al.,2004)

Marketing Mix is simply defined as the variety of important ingredients in business marketing management which contribute to response to completion and satisfaction of the target customers' need. With right business construct and the right strategy, the business could survive in business because they can attract and retain customers. Traditional marketing mix consists of 4P's which are Product, Price, Place and Promotion. Not only a product, which is a tangible product or intangible offerings (service) that the entrepreneur must concerns, but also on its price, promotional and its place of purchase and delivery.

To address to the nature of service market/ industry, apart from original 4P's of marketing mix, there are 3 more element; People, Process and Physical evidence that are added up. (Kotler, 2003) There appear to be differences in the business constructs among the Thai Massage Entrepreneurs. There are, therefore, some issues that affect research findings in this area of Service Marketing Mix (7P's).

Research Methodology

Using an evaluation of the literature and an exploratory study, appropriate constructs and instruments were developed. The major instrument was then interview survey, a pilot study was conducted in order to test the survey instrument for larger participants, involving approximately 480 Thais who have and haven't experienced traditional Thai Massage. All returned questionnaires were physically examined, entered into a statistical spreadsheet. It was observed that some returned questionnaires had missing values, which were filled by mean values as it is the most appropriate way for treating missing values of interval and ratio scales. Validity and reliability testing of constructs will be undertaken using statistic software.

Descriptive statistic were used to describe demographic profile which is essential in describing the characteristic of the respondents, their usage behavior and their preferences on each of 7P's element, based on collected data**.**

Research findings and discussions

Returned questionnaires were collected from the target sample totalled 467, which brings the percentage return rate to 97.29 percent. A demographic profile is essential in describing the characteristics of the respondents. Of those who replied to the survey, most of them or 81.6 percent were female, 66.8 percent are between 26 and 45 years old compared with 1.3 percent that are over 56 years old. 58.9 percent have graduated at university level, which includes those who have finished a bachelor degree, master degree, and higher. Most of respondents or 60.2 percent earned monthly income THB10,000-30,000 (USD337- USD1011).

Of interest to the researcher is the respondents' usage behavior and the marketing factors relate to their selection of Thai Massage providers. Therefore, the researcher focus the consumer behavior analysis on those 427 of the total respondents or 91.40 percent that have experienced Thai massage. Therefore, this insists the importance of health promotion, mentioned in Product excellent plan, among Thais in order to bring successful Medical/Health Industry and increase Country competitiveness.

The study of consumer behavior focus on relationships between what customers think, believe, feel, and do, their attitude which then compatible with purchasing behavior. The research findings showed that reasons behind Traditional Thai massage consumption, of those who have experienced traditional Thai massage, 66.0 percent indicated that they use it for "Healthcare/ Health treatment" and 65.8 percent for "Relaxation". "Foot Massage", ""Body Massage" and "Massage with Herbal Balls" were the most popular traditional Thai Massage menus/ services, bring out the percentage of the 48.70, 41.70 and 37.50 respectively.

Of those who replied to the survey and have experienced traditional Thai massage, most of them or 41.9 percent were not sure about frequency of getting traditional Thai Massage service while 32.8 percent stated that they get traditional Thai massage 1-2 times per month. Most of the respondents that have experienced traditional Thai massage or 48.0 percent stated their favorite time in getting service was between 2.01pm to 8.00pm and 57.1 percent stated that they spent 1-2 hours each time. For average money spending each time receiving service, most of the respondents who have experienced traditional Thai massage or 76.6 percent spent BHT100-500 (USD 3.37-16.89). This could be assumed as standard price of traditional Thai massage in area this study surveyed.

As customers' behavior is the stimulus-response process therefore the analysis of individual and environmental stimuli is presented. Reference groups consists of all the groups that have a direct and indirect influence on the individuals' attitude and behaviors. Of those who have experienced the traditional Thai massage, it has been found that 42.6 percent stated "Me, myself" that have significant impact on their purchasing decision, while "Family" and "Friend" 28.80 และ 28.60. Along with the findings of the source of information, it was found that 52.2 and 41.7 percent of those who have experienced the traditional Thai massage, gain information and knowledge from "Friends and "Family" respectively. Compared to other commercial source, public source and experiential source, it seems that the traditional Thai massage consumer tends to make their decision rely on their personal source. Fortunately, the findings also found that the current customers of traditional Thai massage are willing to inform others, suggest others to try traditional Thai massage which bring the percentage of 80.6.

It is also important to observe consumer behavior whether they are strongly influenced by their individual demographic factor. Of interest to the researcher is whether there is a relationship between the demographic characteristics and the consumer behaviors including their intention to purchase. A contingency table analysis was developed to examine relationship between demographic characteristics and consumer behavior. One of interesting findings on reason of getting traditional Thai massage service, most of male respondents indicate that "want to try", but most of female seemed to be far less response on this answer. However, there was no difference on the main reason of getting traditional Thai massage, which is for "Healthcare/ Health treatment"

According to the concept of 7P's marketing mix element applied in this study, Process and People were found to be the most influential factor that traditional Thai massage customer considered in their selection decision, at 54.6 percent. Whilst, Price, Place, Product, Promotion and last but not least Physical surroundings, are followed. It simply means that traditional Thai massage customer perceive value of service quality rather than price.

Descriptive statistic were used to describe customers in a database based on collected data. Descriptive Statistics of Process and People factors, it shows that "Employees/ therapists have experience/ Experts have the highest mean score at 4.40, followed by "Quality/Standard of Service Safety and Reliability" at mean score 4.39. In consideration of Product factor which gather what customers value most under

varieties of traditional Thai massage services and products, this study found that "Having safety Product that get approval from acceptable institutions" at mean scores of 4.15.

In consideration of Price element, this study found that the customers value most on "Reasonable price compared to service received" at mean score of 4.08 which implies that they prefer what they perceived it is worth to pay for. For Place element, the customers stated that "Having Safety area and enough brightness" at mean score 4.13.

For Promotion element, this study showed that the customers value most on both "Reputation of Traditional Thai Massage Provider/ Shop" and " Having attractive campaign such as Buy 1 get 1 free, special discount etc." at equal mean score of 3.68. Last but not least, for Physical surroundings element, this study showed that the customers value most on "Proper and Modern Interior and Decorations" at mean score of 4.14.

Conclusions and Implications

It is important for the business to know which element(s) of 7's marketing mix are significantly affect their prosperity. Businesses would be able to utilize those most desirable P's to improve their performance level which then ultimately brings customer satisfaction and improvement to the organization as a whole. Even the respondent as a whole was relatively focus on every element of 7P's, which can be seen from high level of mean score (3.5>M>4.20), however this study still explore some interesting issue that insists the importance of crafting right strategy would attract and retain Traditional Thai Massage customers.

This study found that price is not the first priority that the customers concerns. This study reveals that the most concerned P element are Process and People. This could bring attention to the traditional Thai massage providers. It is interesting that getting price cut is not the key competence in this business because most of them are small business with limited fund. In other words, the customer tend to select the providers that are able to offer the best service quality, in term of service itself and massager/therapist, at reasonable price. Therefore, there are some commitments that the traditional Thai massage provider should keep in mind. They should provide service with a professional, clean and affordable experience. They should emphasize the quality of their staffs/ therapists, along with reliable and safe massage product supplies.

References

Arnould, E. J., Price, L., & Zinkhan, G. (2004). *Consumer Behavior*. New York: McGraw-Hill/Irwin.

Bao, Y. (2001). *Effects of parental style and power on adolescent's influence in family consumption decisions* (Doctoral dissertation, Virginia Polytechnic Institute and State University). Retrieved form http://www.scolar.goole.com/

Beller, K., Weiss, S., & Patler, L. (2005). *The consistent consumer: Predicting future behavior through lasting values.* Chicago: Dearborn Trade.

Belch, G. E., & Belch, M. A. (1993). *Introduction to advertising and promotion: An integrated marketing communications perspective.* Boston: Richard D. Irwin.

Boone, L. E., & Kurtz, D. L. (1995). *Contemporary marketing.* Fort Worth, TX: The Dryden Press.

Fishbein, M., & Ajzen, I. (1975) *Belief, attitude, intention and behavior an introduction to theory and research.* Reading, MA: Addison-Wesley Publishing.

Hill, C. (2003). *International Business*: *Competing in the global marketplace*. Boston: McGraw-Hill.

Hofstede, G. (1997). *Cultures and organizations: Software of the mind*. New York: McGraw-Hill.

Kahn, J. (n.d.). Reporting Statistics in APA Style, *Publication manual of the American Psychological Association* (6th ed.). Retrieved June 18, 2014, form http://my.ilstu.edu/~jhkahn/apastats.html

Ko, T. G. (2003). Development of a tourism sustainability assessment procedure: a conceptual approach. *Tourism Management*, 26(3), 431–445, Retrieved June 18, 2014, form http://www.sciencedirect.com

Kotler, P. (2003). *Marketing Management*. New Jersey: Pearson Education.

Lamb, C. W., Hair, J. F., & McDaniel, C. (1992). *Principles of marketing*. Cincinnati, OH: South-Western Publishing.

McCarthy, E. J., & Perreault, W. D. (1990). *Basic marketing: A managerial approach*. Homewood, IL: Richard D. Irwin.

Department of Industrial Promotion of Thailand, Department of Industrial Promotion. (n.d.b.). *SMEs Promotion Office Speeds On Strengthening Thai SMEs base*. Retrieved February 11, 2011, form www.smethai.net

Department of Industrial Promotion of Thailand, Department of Industrial Promotion. (n.d.b.). *SMEs Is Main Mechanism in Boosting Economy (Thailand)*. Retrieved February 12, 2011, form www.smethai.net

Royal Thai Government, Subcommittee on Content Development for World Economic Forum on East Asia 2012. (2012). *Thailand Competitiveness Report 2012*. Retrieved September 30, 2013, form www.nesdb.go.th

Thailand National Statistics Office. (2011). *Thailand consensus on Service Industry 2011*. Retrieved March 31, 2012, form http://service.nso.go.th/nso/nsopublish/census/files/det_whole.pdf

Schiffman, L. G., & Kanuk, L. L. (1994). *Consumer behavior*. New Jersey: Prentice-Hall.

Wattanasuwan, K., & Elliott, R. (1997). I Am What I Consume: From Advertising Literacy to Symbolic Consumption. *Proceedings of the European Marketing Academy Conference*, 15(3), 2141-2148, Retrieved February 15, 2012, form http://marketingthai.blogspot.com/2011/09/theory-of-consumer-behavior.ml

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Functional Intergation Between the Salience and Central Executive Networks: A Role for Action Video Game Experience

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Abstract

Using resting-state fMRI, this study examined the influence of action video game (AVG) experience on two canonical brain functional networks – Salience Network (SN) and Central Executive Network (CEN). Based on the proposition that SN and CEN interacted with each other to support attention and working memory, we explored whether AVG playing, which required high load of attention and working memory, was related to enhancements of SN and CEN. We found that compared AVG amateurs, AVG experts had an enhanced functional integration between SN and CEN, which was further supported by results of the graph theoretical analysis. Thus, this study is the first to show the relation between AVG playing and the plasticity of SN and CEN. The results also support the cognitive benefits of AVG experience on attention and working memory.

Keywords: functional connectivity, central executive network, salience network, learning, action video game

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Introduction

As a major type of virtual environment for social interaction in the modern world, the action video game (AVG) emphasizes physical and mental challenges (Latham, Patston, & Tippett, 2013), and requires various cognitive functions such as hand-eye coordination, memory, and attention. Thus, as it becomes increasingly popular worldwide across different age ranges, the AVG has attracted growing research attention on its cognitive influences (Daphne Bavelier et al., 2011).

Behavioral studies revealed that the AVG experience is related to enhancements of both primary (e.g., visual processing (Green & Bavelier, 2007; R. Li, Polat, Makous, & Bavelier, 2009; R. W. Li, Ngo, Nguyen, & Levi, 2011), eye-hand coordination (Jones, Burton, Saper, & Swanson, 1976), contrast sensitivity (R. Li et al., 2009), oculomotor performance (West, Al-Aidroos, & Pratt, 2013), body movement (Kennedy, Boyle, Traynor, Walsh, & Hill, 2011)) and higher-level cognitive functions (e.g., attention, working memory). Green et al. found that compared to amateurs, experienced AVG players had better selective attention; furthermore, AVG training improved the amateurs' performance on attentional tasks, thereby suggesting the attentional effects of AVG playing (Green & Bavelier, 2003). AVG experience was also associated with enhancements of spatial distribution of visuospatial attention (Green & Bavelier, 2006), attentional capture (Chisholm, Hickey, Theeuwes, & Kingstone, 2010), and attention shifting at switching tasks (Cain, Landau, & Shimamura, 2012). Furthermore, by manipulating the visual complexity of stimuli, Blacker et al. found that experienced AVG players had improved visual short-term memory (Blacker & Curby, 2013).

Researchers have also started to examine the neural basis of cognitive effects of AVG experience. For example, Bavelier et al. found that compared to amateurs, AVG experts had better early filtering of irrelevant information and selective attention as measured by activities in the fronto-parietal areas (D Bavelier, Achtman, Mani, & Föcker, 2012). Furthermore, AVG experience was associated with gray matter volume (GMV) in certain brain areas responsible for attention and working memory (e.g., dorsal striatum (Erickson et al., 2010), right posterior parietal (Tanaka et al., 2013), entorhinal, hippocampal and occipital (Kühn & Gallinat, 2013), dorsolateral prefrontal cortex (Kühn, Gleich, Lorenz, Lindenberger, & Gallinat, 2013)). In addition, a recent study showed that AVG training improved older adults' cognitive control by reducing the multi-tasking cost as measured by electrophysiological signatures; furthermore, the benefit of AVG training extended to untrained cognitive control abilities (e.g., enhanced sustained attention and working memory), thus, suggesting the effects of AVG experience on attention and working memory (Anguera et al., 2013).

It, however, still remains unclear whether AVG experience is related to enhancement of the functional networks of attention and working memory as measured by resting-state fMRI, a method commonly used to evaluate the interaction among different brain regions when subjects are not performing an explicit task (Connolly et al., 2013; Fox & Raichle, 2007). Since the resting-state functional network indicates the *underlying* pattern of neuronal modulations (Damoiseaux et al., 2006), it offers us a strong case to test the relation between AVG experience and neuroplasticity.

This study examines whether AVG experience is related to an enhanced integration between the functional networks of attention and working memory, which are essential for AVG playing. Research on resting-state functional connectivity (FC, a dynamic coordinated activity for communicating information on connected brain regions (Freyer et al., 2011)) has revealed separate functional networks for attention and working memory (Beckmann, DeLuca, Devlin, & Smith, 2005; Cocchi, Zalesky, Fornito, & Mattingley, 2013; Seeley et al., 2007; Sridharan, Levitin, & Menon, 2008): *i*) Salience Network (SN), which typically includes anterior cingulate cortex (ACC) and anterior insula, supporting the detection of salient events; *ii*) Central Executive Network (CEN), which typically includes the dorsolateral prefrontal cortex (DLPFC) and posterior parietal cortex (PPC), supporting attentional control and working memory (see Table 1 for nodal information of the networks). The identification of the two networks is further supported by the results of the structural connectivity analysis (Montembeault et al., 2012; Zielinski, Gennatas, Zhou, & Seeley, 2010).

Researchers have proposed that SN and CEN interact with each other to support attention and working memory respectively (Cocchi et al., 2013; Elton & Gao, 2013). SN receives and provides selective amplification of silent information, thereafter, generates a top-down control signal initiating CEN to respond to salient information for attentional shift and control execution (Menon & Uddin, 2010). More importantly, this proposition suggests a task-dependent functional integration between SN and CEN, which facilitates one's performance on the tasks requiring a high attentional and working memory load (Cocchi et al., 2013). We thus would hypothesize that habitual AVG playing should enhance the integration between SN and CEN, which may be observable by comparing experienced and amateur AVG players using resting-state fMRI.

To evaluate the hypothesis, the present study compared AVG experts and amateurs. We first examined the functional integration between SN and CEN using FC analysis. Then, we performed a quantitative analysis of the functional integration by examining the network and nodal characteristics based on the graph-theoretical analysis.

Method

There were 23 male participants ($M = 23.3 \pm 4.3$ yrs) in the expert group, who were highly experienced players of real-time strategy video games (i.e., League of Legends [LOL] or Defense of the Ancient [DOTA]). They had received AVG training for at least four years and were recognized as either regional or world champions in international AVG competitions. Their AVG experience was quantifiable based on Elo's rating scale (Elo, 1978), ranging from 1800 to 2600 ladder points. There were 22 male participants, who did not play AVG habitually, in the amateur group ($M = 22.3 \pm 3.46$ yrs), whose ladder points were less than 1200. The two groups were matched in years of school education, Raven's Progressive Matrices (91 ± 10.8 vs. 91.6 ± 9.8), and the onset age of video game playing (8 years of age). All the participants were right-handed basing on the Edinburgh Inventory (Oldfield, 1971), reported normal or corrected-to-normal vision, and presented no history of neurological illnesses. Participants gave written consent to participate in this study, which was approved by the Ethics Board of the University of Electronic Science and Technology of China (UESTC).

To allow for an examination of the relation between behavioral and fMRI data, the participants were administered a digital n-back task and a spatial memory task before the fMRI session. In the digital n-back test, they were presented with a sequence of digits and then were asked to indicate whether a digit matches the one from n steps earlier in the sequence. The difficulty of the task was adjustable according to the load factor –n, ranging from 0 to 2 (Jaeggi, Buschkuehl, Perrig, & Meier, 2010). The spatial memory task prompted the participants to memorize a sequence of blocks lit up and then to repeat the sequence in order. Starting with a small number of blocks and then increasing to fifteen blocks maximally, the task measured the longest sequence one could remember (Kessels, van Zandvoort, Postma, Kappelle, & de Haan, 2000).

Images were collected on a 3T MRI scanner (GE Discovery MR750) at the MRI Research Center of UESTC. Resting-state fMRI data were acquired using gradient-echo EPI sequences (repetition time [TR] = 2000 msec, echo time [TE] = 30 msec, flap angle [FA] = 90°, matrix = 64 × 64, 3×3×3 mm voxels, field of view [FOV] = 24 × 24 cm^2, slice thickness/gap = 4 msec/0.4 mm), with an eight channel-phased array head coil. All the participants underwent a 510-second resting-state scanning to yield 255 volumes (32 slices per volume). High-resolution T1-weighted images were acquired using a 3-dimensional fast spoiled gradient echo (T1-3D FSPGR) sequence (TR = 6.008msec, TE = 1.984msec, FA = 90°, matrix = 256 × 256, FOV = 25.6 × 20 cm^2 (80 %), slice thickness (no gap) = 1 mm) to generate 152 slices.

The fMRI data were processed through typical preprocessing procedures using SPM8 software (Wellcome Department of Cognitive Neurology, London, UK) (Cauda et al., 2011; Jenkinson, Bannister, Brady, & Smith, 2002), including the first five volumes of each run discarded, slice scan time correction, head motion correction, normalized images with a BOLD EPI template in the Montreal Neurological Institute (MNI) atlas space and spacial smoothing with Gaussian kernel of 8 mm full-width half-maximum (FWHM). Temporal filtering (band-pass) was then performed between 0.01- 0.08 Hz. The mean signal was removed. BOLD time courses were extracted from each ROI by averaging 27 voxels. The linear regression was used to reduce the effects of physiological processes such as fluctuations related to cardiac and respiratory cycles, or to motion, and 9 noise covariates included White Matter (WM), Cerebro-Spinal Fluid (CSF), Global Signal (GS), as well as from 6 motion parameters (3 rotations and 3 translations as saved by the 3D motion correction). We derived the GS/WM/CSF nuisance signals averaging the time courses of the voxels in each subject's whole brain / WM / CSF masks. These masks were produced by the segmentation process of each participant's T1 image.

Based on previous research (Cauda et al., 2011; Seeley et al., 2007; Spreng et al., 2013; Sridharan et al., 2008), we selected 23 MNI coordinates as the center positions of functional network nodes (ROIs). Functional network edges were defined by Pearson's correlation coefficients, which were computed between the extracted signals of ROIs for each participant. Then the correlation coefficients were performed with Fisher's r-to-z transformation (Fox & Raichle, 2007). For each edge, the independent samples t-tests was used to analyze the difference between groups and corrected the multiple comparisons with False Discovery Rate (FDR, $p < 0.05$). To reveal the relation between SN and CEN, we calculated the average nodal signal across all the nodes within SN and CEN respectively.

The quantitative metrics of SN and CEN were analyzed based on the graph-theoretical method for the full correlation matrix using the Brain Connectivity Toolbox (http://www.brainconnectivity-toolbox.net) (Rubinov & Sporns, 2010).

Results

The average nodal signal was calculated across all the nodes within SN and CEN respectively. Then, we examined the inter-network FC through the correlation between the average nodal signal of SN and CEN. The experts had a significantly enhanced inter-network FC between SN and CEN than the amateurs ($t = 3.91$, $p < 0.001$, Fig. 1a). The enhanced inter-network FC was largely evident in bilateral DLPFC and SMA in CEN, while SN showed a more even spatial distribution since the majority of the nodes were related to the enhancement of inter-network FC. Furthermore, the experts also had a higher level of enhancement of intra-network FC in SN than in CEN (Fig. 1b). Furthermore, the experts did not have decreased FC compared to the amateurs.
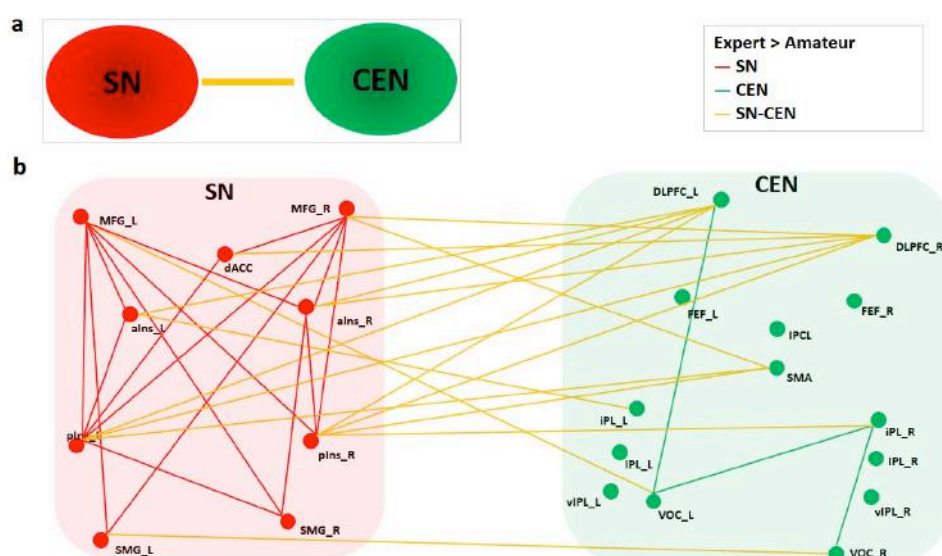
Fig. 1 - The significantly enhanced FC in the experts.

Sub-Fig (a) indicates enhanced FC between SN and CEN based on the correlational analysis between the average nodal signal of SN and CEN (yellow lines indicate p < 0.001). Sub-Fig (b) indicates enhanced FC at the nodal level (FDR, p < 0.05). Red dots are the nodes of SN; red lines are the edges of SN; green dots are the nodes of CEN; green lines are the edges of CEN, yellow lines are edges of inter-network.

For quantitative metric of the integration between SN and CEN, we constituted the nodes of both SN and CEN into a multi-system network. At different threshold levels as shown in Figure 2a, the graph-theoretical analysis showed significant increases in the three global characteristics (i.e., global efficiency, connection cost, and the mean clustering coefficients in the multi-system network) in the experts compared to the amateurs (see Fig. 2).

Fig. 2 - Increased global characteristics in AVG experts over amateurs.

Sub-Fig. (a), (b) and (c) indicate global efficiency, connection cost and mean clustering coefficient respectively. The abscissa indicated step-by-step thresholds (correlation coefficient) to establish network.
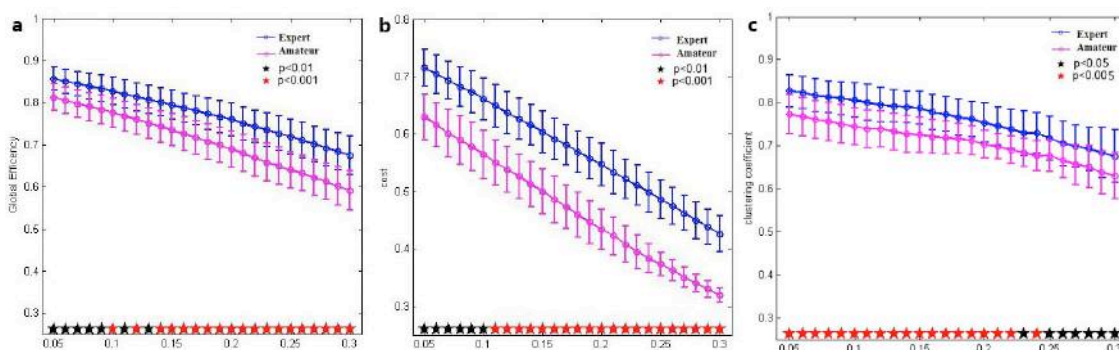
In the new network, we found significantly enhanced nodal characteristics in the experts compared to the amateurs (Fig. 3). Fig. 3a showed that DLPFC.L of CEN and four nodes of SN had increased nodal clustering coefficient (bilateral aIns, pIns.L and SMG.L.). Fig. 3b showed a significantly increased nodal degree in most of the SN and CEN nodes. Fig. 3c revealed a pattern of results similar to Fig. 3a except IPCL and SMA of CEN in nodal efficiency.
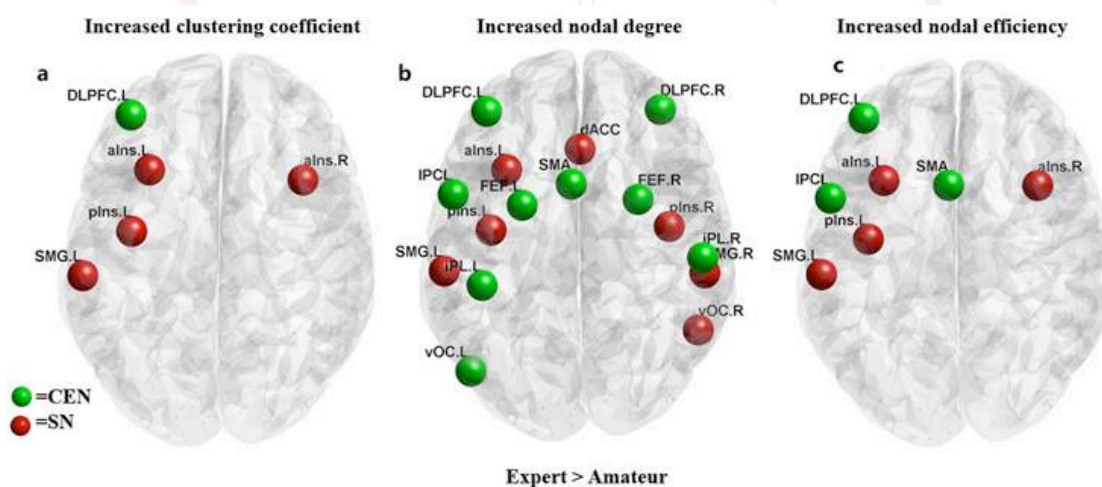
Fig. 3 - Increased nodal characteristics in the experts over the amateurs.
Sub-Fig. (a), (b) and (c) indicate significantly increased nodal clustering coefficient, degree and efficiency, respectively. Green dots are the nodes of CEN, while red dots are the nodes of SN

The experts outperformed the amateurs at the spatial memory task ($t = 4.07$, $p < 0.001$) and the response time of 2-back task ($t = - 2.08$, $p = 0.04$). We found that the performance on the spatial memory task was positively correlated to the global efficiency ($r = 0.47$, $p = 0.04$) and the connection cost ($r = 0.48$, $p = 0.03$), respectively. Furthermore, results showed that the response time at the 2-back task was negatively correlated to the nodal efficiency of DLPFC.L ($r = - 0.51$, $p = 0.02$). However, results did not reveal significant correlations between behavioral data and graph theoretical characteristics in the amateurs.

Discussion

This study examined the relation between AVG experience and the functional integration between SN and CEN using resting-state FC analysis. We also explored the graph theoretical characteristics of the integration between SN and CEN. Results showed that compared to the amateurs, the AVG experts had significantly enhanced FC, global characteristics, and nodal characteristics both within and between the networks.

We found significantly enhanced intra-network and inter-network FC in the experts compared to the amateurs (Fig. 1). The finding that there was a higher level of enhancement in SN than in CEN suggested that SN might be more sensitive to AVG experience than CEN. The stronger sensitivity of SN to adaptive environment may be related to its role in the cognitive processes (Menon & Uddin, 2010). SN receives and selectively amplifies the salient information, thereafter, generates a top-down control signal prompting CEN to respond to salient information through more advanced cognitive activities, such as decision-making, planning, and action execution (Cocchi et al., 2013). Thus, SN appears to be responsible for more primary cognitions than CEN. Perhaps, the network responsible for more primary cognitions (i.e., SN) has a higher level of plasticity than the network responsible for more advanced cognitions (i.e., CEN). However, this conjecture needs a further examination by future studies.

Furthermore, the enhanced FC between the nodes of SN and CEN (e.g., dACC, iPL_L, bilateral AI, PI, DLPFC and MFG) suggests an enhanced functional integration between SN and CEN, which in turn may facilitate attention and working memory at a cognitively demanding task (Seeley et al., 2007; Spreng, Sepulcre, Turner, Stevens, & Schacter, 2013). The enhanced functional integration between SN and CEN observed in the experts might serve as the neural basis supporting their advanced attention and working memory during an AVG session (Colzato, van den Wildenberg, Zmigrod, & Hommel, 2012; Green & Bavelier, 2003; Powers, Brooks, Aldrich, Palladino, & Alfieri, 2013). This study is the first to show that long-term AVG playing is related to enhanced functional integration that is observable even under the resting-state.

Past research showed that both SN and CEN were positively activated at certain cognitive tasks, and thus considered as task-positive network (Cocchi et al., 2013). Using graph-theoretical analysis, we examined the multi-system network (SN and CEN combined) and we found significantly increased global characteristics in the AVG experts compared to the amateurs, including global efficiency, mean clustering coefficient, and connections cost (Fig. 2). Global efficiency reflects the ability to integrate the nodal information; mean clustering coefficient indicates nodal information processing; connection cost denotes the resource consumption in maintaining the function of the network (Rubinov & Sporns, 2010; Xue et al., 2014). Thus, the results suggested that the experts might be advanced at integrating nodal information and nodal information processing.

Furthermore, these enhancements were realized at the cost of increased resource consumption in maintaining the function of networks, which was consistent with the previous findings on the neural network (van den Heuvel, Kahn, Goñi, & Sporns, 2012). The correlation between behavioral data (performance of the spatial memory)

and global efficiency (global efficiency, connection cost) further supported the relation between AVG experience and the functional enhancements of SN and CEN. The increased efficiency of global network might improve one's performance on an AVG session.

Increased nodal characteristics were also observed in the AVG experts. We evaluated three nodal characteristics: clustering coefficient, degree, and efficiency. Nodal clustering coefficient indicates the ability of information processing of a node; nodal degree reflects the number of connections of a node, a basic nodal characteristic to which other nodal characteristics are related; nodal efficiency reflects the ability of a node to integrate specialized information from other nodes (Rubinov & Sporns, 2010; Zhang et al., 2011). Thus, the increased nodal characteristics in the experts suggested that they had enhanced information processing ability at local regions of CEN and SN. These regions shown in Fig. 3, especially nodes with enhancement in all of three characteristics (i.e. DLPFC, Insula and SMG) might have a close relation to AVG experience. As an important node in CEN, DLPFC.L is related to attentional control and working memory (Cocchi et al., 2013; Seeley et al., 2007).

Similar to a recent study on the effect of AVG experience (increased GMV in DLPFC), the present study showed an enhanced DLPFC.L (Kühn et al., 2013). Furthermore, the nodal efficiency of DLPFC.L was correlated to the response time at the 2-back task in the AVG experts but not in the amateurs. Furthermore, the AVG experts also showed better work memory than amateurs. Therefore, the left DLPFC might play an important role in the cognitive effects of AVG experience. Moreover, we also found that the bilateral DLPFC, which were also main nodes in CEN, had more enhanced FC between CEN and SN than other nodes, thus suggesting that DLPFC might be associated with the integration of both CEN and SN.

In addition, bilateral aIns receives salient information and initiating CEN. According to recent resting-state studies, bilateral pIns and SMG.L are related to the sensorimotor network (Cauda et al., 2011) which charge input and output information to support attentional and working memory. Thus, these enhanced nodal characteristics support the behavioral finding that AVG playing is related to advanced attention and working memory (Colzato et al., 2012; Green & Bavelier, 2003; Powers et al., 2013).

Conclusion

In general, by comparing AVG experts with amateurs, this study investigated AVG experience-related functional improvement in human brain. Results showed that AVG experts had significantly enhanced FC between SN and CEN, increased global characteristics and nodal characteristics in SN and CEN. Thus, frequent AVG playing might integrate AVG players' SN and CEN, which implicated the plasticity of brain responded to AVG. The integration may is related to the experts' advanced attention and working memory in a game session, which need a longitudinal study for further examination.

References

Anguera, J., Boccanfuso, J., Rintoul, J., Al-Hashimi, O., Faraji, F., Janowich, J., Johnston, E. (2013). Video game training enhances cognitive control in older adults. Nature, 501(7465), 97-101. doi: 10.1038/nature12486

Bavelier, D., Achtman, R., Mani, M., & Föcker, J. (2012). Neural bases of selective attention in action video game players. Vision Research, 61, 132-143. doi: 10.1016/j.visres.2011.08.007

Bavelier, D., Green, C. S., Han, D. H., Renshaw, P. F., Merzenich, M. M., & Gentile, D. A. (2011). Brains on video games. Nature Reviews Neuroscience, 12(12), 763-768. doi: 10.1038/nrn3135

Beckmann, C. F., DeLuca, M., Devlin, J. T., & Smith, S. M. (2005). Investigations into resting-state connectivity using independent component analysis. Philosophical Transactions of the Royal Society B: Biological Sciences, 360(1457), 1001-1013. doi: DOI 10.1098/rstb.2005.1634

Blacker, K. J., & Curby, K. M. (2013). Enhanced visual short-term memory in action video game players. Attention, Perception, & Psychophysics, 75(6), 1128-1136. doi: 10.3758/s13414-013-0487-0

Cain, M. S., Landau, A. N., & Shimamura, A. P. (2012). Action video game experience reduces the cost of switching tasks. Attention, Perception, & Psychophysics, 74(4), 641-647. doi: 10.3758/s13414-012-0284-1

Cauda, F., D'Agata, F., Sacco, K., Duca, S., Geminiani, G., & Vercelli, A. (2011). Functional connectivity of the insula in the resting brain. NeuroImage, 55(1), 8-23. doi: 10.1016/j.neuroimage.2010.11.049

Chisholm, J. D., Hickey, C., Theeuwes, J., & Kingstone, A. (2010). Reduced attentional capture in action video game players. Attention, Perception and Psychophysics, 72(3), 667-671. doi: 10.3758/APP.72.3.667

Cocchi, L., Zalesky, A., Fornito, A., & Mattingley, J. B. (2013). Dynamic cooperation and competition between brain systems during cognitive control. Trends in cognitive sciences, 17(10), 493-501. doi: DOI 10.1016/j.tics.2013.08.006

Colzato, L. S., van den Wildenberg, W. P., Zmigrod, S., & Hommel, B. (2012). Action video gaming and cognitive control: playing first person shooter games is associated with improvement in working memory but not action inhibition. Psychological Research, 77(2), 1237-1239. doi: 10.1007/s00426-012-0415-2

Connolly, C. G., Wu, J., Ho, T. C., Hoeft, F., Wolkowitz, O., Eisendrath, S., Paulus, M. P. (2013). Resting-State Functional Connectivity of Subgenual Anterior Cingulate Cortex in Depressed Adolescents. Biological Psychiatry, 74(12), 898-907. doi: 10.1016/j.biopsych.2013.05.036

Damoiseaux, J. S., Rombouts, S. A., Barkhof, F., Scheltens, P., Stam, C. J., Smith, S. M., & Beckmann, C. F. (2006). Consistent resting-state networks across healthy subjects. Proceedings of the National Academy of Sciences of the United States of America, 103(37), 13848-13853. doi: 10.1073/pnas.0601417103

Elo, A. E. (1978). The rating of chessplayers, past and present (Vol. 3). New York: Arco Pub.

Elton, A., & Gao, W. (2013). Divergent task-dependent functional connectivity of executive control and salience networks. Cortex, 51, 56-66.

Erickson, K. I., Boot, W. R., Basak, C., Neider, M. B., Prakash, R. S., Voss, M. W., Gratton, G. (2010). Striatal volume predicts level of video game skill acquisition. Cerebral Cortex, 20(11), 2522-2530. doi: 10.1093/cercor/bhp293

Fox, M. D., & Raichle, M. E. (2007). Spontaneous fluctuations in brain activity observed with functional magnetic resonance imaging. Nature Reviews Neuroscience, 8(9), 700-711. doi: 10.1038/nrn2201

Freyer, F., Roberts, J. A., Becker, R., Robinson, P. A., Ritter, P., & Breakspear, M. (2011). Biophysical mechanisms of multistability in resting-state cortical rhythms. Journal of Neuroscience, 31(17), 6353-6361. doi: 10.1523/JNEUROSCI.6693-10.2011

Green, C. S., & Bavelier, D. (2003). Action video game modifies visual selective attention. Nature, 423(6939), 534-537. doi: 10.1038/nature01647

Green, C. S., & Bavelier, D. (2006). Effect of action video games on the spatial distribution of visuospatial attention. Journal of Experimental Psychology: Human Perception and Performance, 32(6), 1465-1478. doi: 10.1037/0096-1523.32.6.1465

Green, C. S., & Bavelier, D. (2007). Action-video-game experience alters the spatial resolution of vision. Psychological Science, 18(1), 88-94. doi: 10.1111/j.1467-9280.2007.01853.x

Jaeggi, S. M., Buschkuehl, M., Perrig, W. J., & Meier, B. (2010). The concurrent validity of the N-back task as a working memory measure. Memory, 18(4), 394-412. doi: 10.1080/09658211003702171

Jenkinson, M., Bannister, P., Brady, M., & Smith, S. (2002). Improved optimization for the robust and accurate linear registration and motion correction of brain images. NeuroImage, 17(2), 825-841.

Jones, E., Burton, H., Saper, C., & Swanson, L. (1976). Midbrain, diencephalic and cortical relationships of the basal nucleus of Meynert and associated structures in primates. Journal of Comparative Neurology, 167(4), 385-419. doi: 10.1002/cne.901670402

Kühn, S., & Gallinat, J. (2013). Amount of lifetime video gaming is positively associated with entorhinal, hippocampal and occipital volume. Molecular Psychiatry, 19(7), 842-847. doi: 10.1038/mp.2013.100

Kühn, S., Gleich, T., Lorenz, R., Lindenberger, U., & Gallinat, J. (2013). Playing Super Mario induces structural brain plasticity: gray matter changes resulting from training with a commercial video game. Molecular Psychiatry, 19(2), 265-271. doi: 10.1038/mp.2013.120

Kennedy, A. M., Boyle, E. M., Traynor, O., Walsh, T., & Hill, A. D. K. (2011). Video Gaming Enhances Psychomotor Skills But Not Visuospatial and Perceptual Abilities in Surgical Trainees. Journal of Surgical Education, 68(5), 414-420. doi: 10.1016/j.jsurg.2011.03.009

Kessels, R. P., van Zandvoort, M. J., Postma, A., Kappelle, L. J., & de Haan, E. H. (2000). The Corsi block-tapping task: standardization and normative data. Applied Neuropsychology, 7(4), 252-258. doi: 10.1207/S15324826AN0704_8

Latham, A. J., Patston, L. L., & Tippett, L. J. (2013). The virtual brain: 30 years of video-game play and cognitive abilities. Front Psychol, 4, 629. doi: 10.3389/fpsyg.2013.00629

Li, R., Polat, U., Makous, W., & Bavelier, D. (2009). Enhancing the contrast sensitivity function through action video game training. Nature Neuroscience, 12(5), 549-551. doi: 10.1038/Nn.2296

Li, R. W., Ngo, C., Nguyen, J., & Levi, D. M. (2011). Video-game play induces plasticity in the visual system of adults with amblyopia. PLoS Biology, 9(8), e1001135. doi: 10.1371/journal.pbio.1001135

Menon, V., & Uddin, L. Q. (2010). Saliency, switching, attention and control: a network model of insula function. Brain Structure and Function, 214(5-6), 655-667.

Montembeault, M., Joubert, S., Doyon, J., Carrier, J., Gagnon, J.-F., Monchi, O., Brambati, S. M. (2012). The impact of aging on gray matter structural covariance networks. NeuroImage, 63(2), 754-759. doi: 10.1016/j.neuroimage.2012.06.052

Nichols, T., & Hayasaka, S. (2003). Controlling the familywise error rate in functional neuroimaging: a comparative review. Statistical Methods in Medical Research, 12(5), 419-446.

Nichols, T. E., & Holmes, A. P. (2002). Nonparametric permutation tests for functional neuroimaging: a primer with examples. Human Brain Mapping, 15(1), 1-25.

Oldfield, R. C. (1971). The assessment and analysis of handedness: The Edinburgh inventory. Neuropsychologia, 9(1), 97-113. doi: 10.1016/0028-3932(71)90067-4

Powers, K. L., Brooks, P. J., Aldrich, N. J., Palladino, M. A., & Alfieri, L. (2013). Effects of video-game play on information processing: A meta-analytic investigation. Psychonomic Bulletin & Review, 20(6), 1055-1079. doi: 10.3758/s13423-013-0418-z

Rubinov, M., & Sporns, O. (2010). Complex network measures of brain connectivity: Uses and interpretations. NeuroImage, 52(3), 1059-1069. doi: 10.1016/j.neuroimage.2009.10.003

Seeley, W. W., Menon, V., Schatzberg, A. F., Keller, J., Glover, G. H., Kenna, H., Greicius, M. D. (2007). Dissociable intrinsic connectivity networks for salience processing and executive control. Journal of Neuroscience, 27(9), 2349-2356. doi: 10.1523/JNEUROSCI.5587-06.2007

Spreng, R. N., Sepulcre, J., Turner, G. R., Stevens, W. D., & Schacter, D. L. (2013). Intrinsic architecture underlying the relations among the default, dorsal attention, and frontoparietal control networks of the human brain. Journal of Cognitive Neuroscience, 25(1), 74-86. doi: 10.1162/jocn_a_00281

Sridharan, D., Levitin, D. J., & Menon, V. (2008). A critical role for the right fronto-insular cortex in switching between central-executive and default-mode networks. Proceedings of the National Academy of Sciences of the United States of America, 105(34), 12569-12574. doi: 10.1073/pnas.0800005105

Tanaka, S., Ikeda, H., Kasahara, K., Kato, R., Tsubomi, H., Sugawara, S. K., . . . Honda, M. (2013). Larger Right Posterior Parietal Volume in Action Video Game Experts: A Behavioral and Voxel-Based Morphometry (VBM) Study. PLoS ONE, 8(6), e66998. doi: 10.1371/journal.pone.0066998

van den Heuvel, M. P., Kahn, R. S., Goñi, J., & Sporns, O. (2012). High-cost, high-capacity backbone for global brain communication. Proceedings of the National Academy of Sciences of the United States of America, 109(28), 11372-11377. doi: 10.1073/pnas.1203593109

West, G. L., Al-Aidroos, N., & Pratt, J. (2013). Action video game experience affects oculomotor performance. Acta Psychologica, 142(1), 38-42. doi: 10.1016/j.actpsy.2011.08.005

Xue, K., Luo, C., Zhang, D., Yang, T., Li, J., Gong, D., Zhou, D. (2014). Diffusion tensor tractography reveals disrupted structural connectivity in childhood absence epilepsy. Epilepsy Research, 108(1), 125-138. doi: 10.1016/j.eplepsyres.2013.10.002

Zhang, J., Wang, J., Wu, Q., Kuang, W., Huang, X., He, Y., & Gong, Q. (2011). Disrupted brain connectivity networks in drug-naive, first-episode major depressive disorder. Biological Psychiatry, 70(4), 334-342. doi: 10.1016/j.biopsych.2011.05.018

Zielinski, B. A., Gennatas, E. D., Zhou, J., & Seeley, W. W. (2010). Network-level structural covariance in the developing brain. Proceedings of the National Academy of Sciences of the United States of America, 107(42), 18191-18196. doi: 10.1073/pnas.1003109107

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Episodic Occurrence of Cognitive Dissonance among Nurses and Midwives in the Regional Health Units of Southern Cebu

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Abstract
This study sought to determine the possibility of experiencing cognitive dissonance among catholic health workers administering contraceptives in the different regional health centers of southern Cebu, Philippines. Furthermore, the contributing factors were explored along with how dissonance was experienced. Data were collected through a survey, face-to-face interview and focus group discussion. There were eighty-one (81) respondents who took the Religiosity scale and only ten (10) extremely religious respondents were subjected to the face to face interview and four (4) were invited for the focus group interview. Data obtained from the FFI and FGI were collated, transcribed and coded into themes. From the identified themes, theories of Festinger and Baumeister were used to derive meaning. The research revealed that the actual administration of the family planning methods triggered the experience of episodes of dissonance. The onset of episodic cognitive dissonance stems from the subjects' experience with their authoritarian parents, the perceived incongruence between the Self-Image and Ideal Self, Low Self-esteem and the belief of a punitive God. The dissonance experience is ultimately a product of one's belief systems and conscious choice.

Keywords: Nurses, Midwives, Health Workers, Cognitive dissonance, Religious beliefs

Introduction

Overpopulation, poverty, and health issues in the Philippines have brought forth the issuance of family planning program for Filipino families. The Department of Health actively promotes both the natural method of contraception and the artificial or scientific method of contraception (Ona, 2010). According to Ona (2010), "The natural method, which is championed by the Catholic Church, promotes family planning based on a woman's fertility cycle". Pregnancy is prevented by observing abstinence during the woman's fertile days. The artificial method, on the other hand, uses methods of birth control like condoms, contraceptive pills and IUDs to prevent pregnancy. According to Legaspi (2010), "The Church rejects the contraceptive mentality, i.e., the attitude that selfishly avoids the procreation of offspring solely because the couples do not want to bear the responsibility that comes with having a child".

With the contradicting standpoints stemming from two different entities, health workers who are fervent Catholics may experience mental discomfort when their professional duties directly contradict their religious beliefs. This research then evaluated the possibility of Cognitive Dissonance, a situation involving conflicting attitudes, beliefs or behaviors that would cause mental discomfort resulting in the emergence of an inner drive to hold all our attitudes and beliefs in harmony and avoid disharmony (Festinger, 1957). Moreover, this study delved on how dissonance was experienced and its contributing factors. Through phenomenological case study approach, the onset of dissonance and its factors were described, explained, interpreted and analyzed. These data were gathered by conducting face to face interview and focus group interview which were then collated, transcribed and coded into themes to understand the phenomenon.

Conclusion

The onset of cognitive dissonance is attributed to different factors. Cognitions about the self represent standards or expectancies that facilitate dissonance arousal. Moreover, Dissonance is most powerful when it is about our self-image (Festinger, 1957). Feelings of foolishness, immorality and so on (including internal projections during decision-making) are dissonance in action. The first influencing factor; the Self-concept which is an individual's belief about himself or herself, including the person's attributes and who and what the self is (Baumeister, 1999).

Second is Self-image; it constitutes our physical descriptions of ourselves, our social roles and personality traits (Rogers, 1959). The debate about family planning prompted the re-evaluation of their social role which was highly valued and resulted in conflicting thoughts. Another factor is Self-esteem; the extent to which individuals accept or approve of themselves (Baumeister 1999). Individuals who exhibit Low-esteem are pessimistic and have a negative view of themselves always worrying what others might think. Furthermore, it can be inferred that the experience of Cognitive Dissonance arises from having authoritarian parents, the perceived incongruence between the Self-Image and Ideal Self and the belief of a punitive God.

Individuals who experience dissonance tend to engage in self-justification, and at times alternate between admission and denial when compensating or making amends. Ultimately the dissonant experience induces a change in one's belief systems, a re-evaluation of values and the formation of a compartmentalized personality based on one's role. In effect, balance in a man's system is achieved.

References

Baumeister, R. F. (Ed.) (1999). *The self in social psychology*. Philadelphia, PA: Psychology Press (Taylor & Francis).

DeLamater, John D. & Myers, Daniel J (2010). *Social Psychology*. Pasig, Philippines: Cengage Learning

Festinger, L. (1957). *A Theory of cognitive dissonance*. Stanford, CA: Stanford University Press.

Legaspi, Leonardo Z. (10 July 1990). Guiding Principles of the Catholic Bishops' Conference of the Philippines on Population Control. Message posted to http://cbcponline.net/v2/?p=317

Montenegro, Candice (2010, September 29).DOH: Aquino's stance on RH bill based on 'responsible parenthood'. *GMA News*. Retrieved from http://www.gmanetwork.com/news/story/202239/

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Simulation of a Queuing System Case Study: Call Center Service in Organization A.

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Abstract

The objectives of the study is to fine the queuing system of the call center service in Organization A by using the simulation situation. The simulation situation main purpose is to fine the queuing characteristics and offer the alternative way to reduce the customers queuing time. This study use the ARENA program to simulated situation to learn about system efficiency under the uncertainty of the time to spend on service. And the uncertainty of the arrival of customers. Assumes that arrival time follow a Poisson probability distribution and the service times are distributed exponentially. In this study the queuing characteristics of the call center service in Organization A is analyzed by multiple-channel queuing model to fine the average number of customers in the system, the average number of customers in line waiting for service, The average time a customer spends in waiting line, the average time a customer spends in the queue waiting for service and Utilization rate. This study use ARENA software to compute the performance measure of Multi-server queuing system at call center service in organization A using arrival rate (λ) = 121.185 customers/hr, service rate (μ) = 25 customers/hr and number of service (m) = 27. The study results on efficiency of the queuing system of call center of Organization A revealed that even though there is a change in number of 15-21 outsourcing agents, the efficiency values of queuing system are still close to the current situation where 21 outsource agents are employed.

Keywords: The queuing system, Multiple-channel queuing model, ARENA program

Introduction

Problems on operation of call center which affect service rendering efficiency are uncertainty of incoming calls from the customers (arriving customers) and uncertainty on amount of time each telephone operator rendered service. For instance in some period of time the number of arriving customers exceeds the number of telephone operators or some telephone operator takes too much time to provide service to each customer due to such operator does not have enough skills. Consequently, some customers' call may not be answered immediately and they have to wait before the operator pick up their call. Therefore some customers shall not wait as it makes them have waiting cost, so they choose to purchase products from other company instead. On the other hand, if there are too many operators, service cost shall be higher.

The above problems made the researcher interested to conduct an analysis on queuing system of call center of one organization. The objectives are to find guidelines to develop efficiency of services, to make service user have faster service, to balance waiting cost and service cost, to create business operation worthiness of the organization and to maximize satisfaction of the service users.

Objectives of the Project

1. To conduct a study on queuing system on service rendering in call center of Organization A
2. To conduct a study on queuing system model in call center of Organization A.

Related Theories

Simulation of Problem

Simulation of problem is a model design process of real system, then conduct experiment to learn behavior of real system under the specified requirements to assess operation of the system and the experimental result shall be analyzed before it can be used to solve problems in the actual circumstance (Shannon, 1975, referred to in Roongrat Pisuchpen, 2008). As the current industries always have complexity with variable factors involved. For example, in service industry, the variable factors are uncertainty of arriving customers and uncertainly of service rendering time and etc. Therefore, it is quite difficult to manage the works and allocate resources to make them achieve the objectives of such industry by using arithmetic model to solve the problem. Hence, creation of model by using computer program is one of the options to study behavior of the system to find guidelines to solve the problem. In addition, when using computer program to create model, a change of model to create guidelines to improve the system to make it have better efficiency and effectiveness without any interference of real system can be done quite conveniently (Roongrat Pisuchpen, 2008).

Queuing System

Queuing Theory has been initiated and developed by A. K. Erlang, a Danish engineer, in 1910.

Queuing occurred because demand for services exceeds capability of service rendering, therefore it is very important to have adequate service unit to render services. In order to be able to provide service adequately with the demand, it is necessary to know the amount of arriving customers and when as well as time used for rendering service to each customer. If there are too small amount of service units, queuing shall occur, which is deemed as one of the loss of expense problems and it can also make the business lose the customer. On the contrary, if there are too many service units, expenses incurred shall be more than necessary, for instance service unit shall have too much idle times (Sutthima Chumnanvej, 2011).

Procedures to Conduct Research

Collect information on number of receiving customers, time used for providing service of operator in call center, period of time where there are a lot of arriving customers (08.00-16.00), from database of Organization A.

Information gained from database shall be used to create model to analyze queuing circumstance at present by using computer program, such as service usage rate and service rendering rate of the telephone operator in order to find average service user in queuing system (L), average number of service user in the queue (L_q), average time each service user is in the queuing system (W), average time each service user is in the queue (W_q), probability of system availability (P_o). After that, model shall be crated to test the concept to improve efficiency of the queuing operation system.

Research Methodology

1. Compile information on time used for service and completion time for providing service of the operator from call center database of Organization A.

2. Study and analyze information to specify the appropriated queuing model as M/M/m queuing model under assumption that usage of service user is on random basis with Poisson Arrival Process Distribution, time used for providing service is on random basis with Exponential Service Time Distribution, there are more than 1 service unit (m Unit), 1 queuing and with one step service rendering, unlimited number of service usage population, average service usage rate (λ) is less than average service rendering rate multiplied with number of service unit (mμ), average service rendering rate of service unit is equal.

Form the model the probability of having n customers in the system is given by:

1. *The probability that there are zero customer in the system:*

$$P_0 = \frac{1}{\displaystyle\sum_{n=0}^{n=m-1} \frac{\left(\frac{\lambda}{\mu}\right)^n}{n!} + \left[\frac{\left(\frac{\lambda}{\mu}\right)^m}{m!} \frac{(m\mu)}{(m\mu - \lambda)}\right]}$$

2. *The average number of customers in the system:*

$$L = \frac{\lambda\mu(\lambda/\mu)^m}{(m-1)!(m\mu - \lambda)^2} P_0 + \frac{\lambda}{\mu}$$

3. *The average time a customer spends in the system:*

$$W = \frac{\mu(\lambda/\mu)^m}{(m-1)!(m\mu - \lambda)^2} P_0 + \frac{1}{\mu} = \frac{L}{\lambda}$$

4. *The average number of customers in line waiting for service:*

$$L_q = L - \frac{\lambda}{\mu}$$

5. *The average time a customer spends in the queue waiting for service:*

$$W_q = W - \frac{1}{\mu} = \frac{L_q}{\lambda}$$

6. *Utilization rate:*

$$\rho = \frac{\lambda}{m\mu}$$

Where, λ = the arrival rate of customer per unit time, μ = the service rate per unit time, m = the number of servers, P_0 = the probability that there are no customer in the system, L_q = the average number of customers in line waiting for service, L = the average number of customers in the system, W_q = the average time a customer spends in the queue waiting for service, W = the average time a customer spends in the system, ρ = Utilization rate.

Details of Current Problem

Call Center of Organization A provides service 24 hours. Period of 08.00 to 16.00 hrs. is the time that the call center has the largest amount of arriving customers and outsourcing agents are hired to support the work in such period.

At present, during period of 08.00-16.00 hrs., there are 6 permanent agents of Organization A and 21 outsourcing agents provide services on such period. Average arriving customer is 0.495 minutes and service rendered is one person each and there is no limited number of maximum service users. In order to enhance efficiency of operation, the researcher has conducted a study on balance between number of telephone operators and service usage rate of customer.

Create Model by Using Computer Program
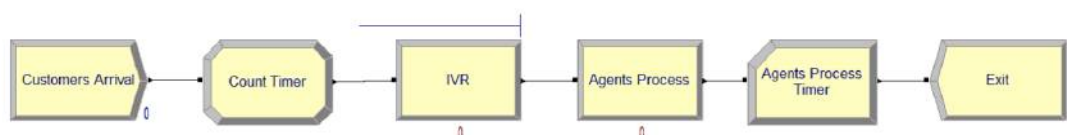
This study use ARENA software to compute the performance measure of Multi-server queuing system at call center Service in organization A using arrival rate (λ) = 121.185 customers/hr, service rate (μ) = 25 customers/hr and number of service (m) = 27.

Model is starting from Create Module, named Customer Arrival into the system on randomly basis (Expo) with average value of 0.495 minute and service used is 1 person at a time, without limiting the maximum service users. Next procedures after the customer is in the system are to assign module named Count Timer to specify qualifications to the customer to record starting time when the customer is in the system, assign qualification named TimeEnter to TNOW to collect current time when the customer enters into Count Timer Module to calculate time that customer used in the system at a later time by using Record Module.

After the customer enters into the system, there shall be an Interactive Voice Response (IVR) via Process Module named IVR. Define operation procedure as Delay with unlimited resources, so it is not necessary to reserve the resources, so no queue is occurred. Time used for performing activity is fixed (Constant) at 37.75 seconds. Next, the customer uses service with Agents via Process Module named Agents Process. Define operation procedure as Seize Delay Release to reserve the existing 27 agents. After the activity is completed, the agent shall be set to available to provide service to the next customer. Use Set resource named Agent and Delay Type is Expression with 27 members in the Set. Type of resources is specified to be non-constant production capacity based on schedule.

Working time of agent is specified to be 8 hours with morning interval for 15 minutes, lunch break for 40 minutes, afternoon break for 15 minutes. Schedule Rule is specified to be as Wait. When it is the time to break, but if the service rendered to customer by the telephone operator has not yet completed, such operator shall keep on providing service until it is completed and shall take a break after that. When such operator resumes the work, starting time shall be extended, so total period of time in maintaining workforce of agent shall be the equally same. After that Record Model shall be created as Time Interval to record time and number of customers who finish service usage with the Agent, and customers exit from the system.

Number of agents	8.00 a.m. - 9.00 a.m.	9.00 a.m. - 10.00 a.m.	10.00 a.m. - 11.00 a.m.	11.00 a.m. - 12.00 p.m.	12.00 p.m. - 1.00 p.m.	1.00 p.m. - 2.00 p.m.	2.00 p.m. - 3.00 p.m.	3.00 p.m. - 4.00 p.m.
3 PA								
3 PA								
7 OA								
7 OA								
7 OA								

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 1: Working Time Table of the Agents (during period of 08.00-16.00 hrs.)

Number of Agents	Morning break (15 minutes)	Lunch break (40 minutes)	Afternoon break (15 minutes)
3 Agents	10.00 a.m. - 10.15 a.m.	11.40 a.m. -12.20 p.m.	2.30 p.m. – 2.45 p.m.
3 Agents	10.30 a.m. - 10.45 a.m.	12.20 p.m. - 1.00 p.m.	2.45 p.m. - 3.00 p.m.
7 Outsource agents	9.45 a.m. – 10.00 a.m.	12.00 p.m. – 12.40 p.m.	3.00 p.m. – 3.15 p.m.
7 Outsource agents	10.00 a.m. - 10.15 a.m.	11.50 a.m. - 12.30 p.m.	2.30 p.m. – 2.45 p.m.
7 Outsource agents	10.30 a.m. - 10.45 a.m.	12.30 p.m. - 1.10 p.m.	2.45 p.m. - 3.00 p.m.

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 2: Permanence Agents and Outsource Agents break Schedule

Summary of Current Situation of the Call Center of Organization A by using ARENA Simulation Program is as per Figure 3.

Based on the study, the current situation of the Call Center of Organization A is as follows:
1. The period that call center has the largest amount of arriving customers is from 08.00 - 16.00 hours and there are totally 27 agents, comprising of 6 permanent agents and 21 outsource agents, provide services at that time.
2. The average arrival rate of customer = 121.185 customers/hour.
3. The average service time of each agent = 25 persons/hour.
4. The average number of customers in the system (L) = 5.91 persons.
5. The average number of customers in line waiting for service (Lq) = 0.01 person.
6. The average time a customer spends in the system (W) = 3 minutes.
7. The average time a customer spends in the queue waiting for service (Wq) = 0 minute.
8. The average utilization rate of 27 agents = 21%.

Number of agents	W – in minutes	Wq – in minutes	L	Lq	Utilization rate (%)
6PA+21OA (Present Situation)	3.00	0.00	5.91	0.01	21.00

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 3. Performance Measure of Call Center Queuing Model at Organization A (Present situation)

Efficiency Improvement Guideline:

Simulate service provision of a call center during 8.00 -16.00 hours by specifying that the average arrival rate of customer is fixed at 121.185 persons/hour, the average service time of each agent is fixed at 25 persons/hour and working schedule of each permanent agent and outsource agent is fixed. After that, conduct a test on efficiency comparison of queuing system in case of a change in number of the outsource agents and the current situation, result gained is as per Figure 4.

Number of agents	W – in minutes	Wq – in minutes	L	Lq	Utilization rate (%)
6PA+21OA (Present Situation)	3.00	0.00	5.91	0.01	21.00
6 PA + 0 OA	11.40	7.80	22.43	16.35	92.83
6 PA + 1 OA	6.60	3.60	13.12	6.93	81.71
6 PA + 2 OA	5.40	2.40	10.48	4.31	71.63
6 PA + 3 OA	4.20	1.20	8.85	2.55	64.78
6 PA + 4 OA	3.60	0.60	7.74	1.62	56.70
6 PA + 5 OA	3.60	0.60	7.06	1.16	49.55
6 PA + 6 OA	3.60	0.60	7.35	1.27	46.92
6 PA + 7 OA	3.60	0.60	7.57	1.50	43.15
6 PA + 8 OA	3.60	0.60	6.70	0.80	39.00
6 PA + 9 OA	3.00	0.00	6.27	0.39	36.20
6 PA + 10 OA	3.00	0.00	6.27	0.39	33.88
6 PA + 11 OA	3.00	0.00	6.27	0.37	31.94
6 PA + 12 OA	3.60	0.60	6.88	0.90	30.61
6 PA + 13 OA	3.60	0.60	6.89	0.87	29.32
6 PA + 14 OA	3.60	0.60	6.67	0.74	27.55
6 PA + 15 OA	3.00	0.00	6.10	0.20	20.05
6 PA + 16 OA	3.00	0.00	5.92	0.05	24.68
6 PA + 17 OA	3.00	0.00	5.92	0.01	23.61
6 PA + 18 OA	3.00	0.00	5.98	0.04	22.92
6 PA + 19 OA	3.00	0.00	5.99	0.02	22.16
6 PA + 20 OA	3.00	0.00	5.98	0.01	21.19

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 4: Efficiency comparison of queuing system between the current situationand in case of a change in number of the outsource agent

Data in Figure 4 can measure efficiency of queuing system from the simulation by simulating a change in number of the outsource agent and it was found that if there is a change in number of 15-20 outsource agents, the result is as follows:
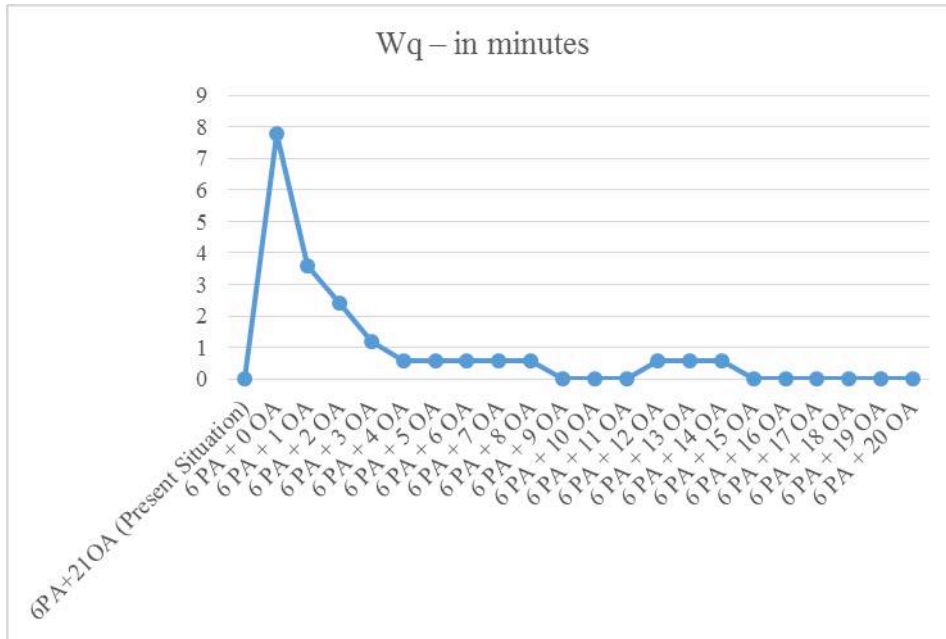
1. The average time a customer spends in the system (W) is still = 3 minutes which equals to the current situation of the call center.
2. The average time a customer spends in the queue waiting for service (Wq) is still = 0 minute which equals to the current situation of the call center.
3. The average number of customers in the system (L) is between 6.10-5.98 persons, which is closed to the current situation which is = 5.91 persons.
4. The average number of customers in line waiting for service (Lq) is between 0.05-0.01 person, which is closed to the current situation which is = 0.01 person.
5. The average utilization rate is between 20.25-24.68%, which is closed to the current situation which is = 21%, result gained is as per Figure 5 -9.
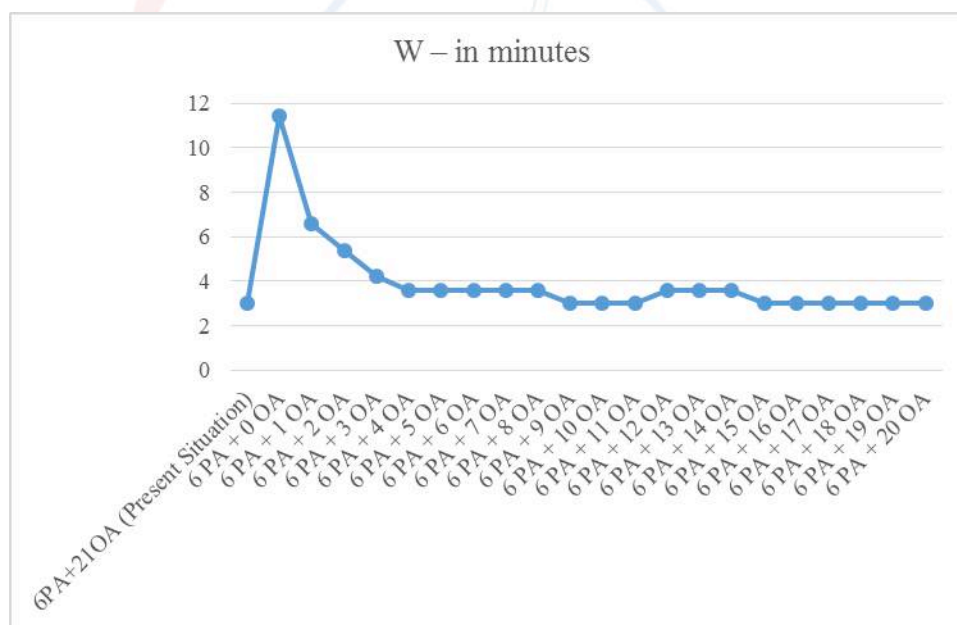
Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 5: Comparison of the average time a customer spends in the system (W) between the current situation and in case of a change in number of the outsource agent

From Figure 5: When comparing the average time a customer spends in the system (W) between the current situation and in case of a change in number of outsource agents, it was found that the efficiency of queuing system on the average time a customer spends in the system (W) during a change in number of 15-20 outsource agents equals to the current situation which is = 3 minutes.

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 6: Comparison of the average time a customer spends in the queue waiting for service (Wq) between the current situation and in case of a change in number of the outsource agent.

From Figure 6: When comparing the average time a customer spends in the queue waiting for service (Wq) between the current situation and in case of a change in number of outsource agents, it was found that the efficiency of queuing system on the average time a customer spends in the queue waiting for service (Wq) during a change in number of 15-20 outsource agents equals to the current situation which is = 0 minute.

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 7: Comparison of the average number of customers in the system (L) between the current situation and in case of a change in number of the outsource agent
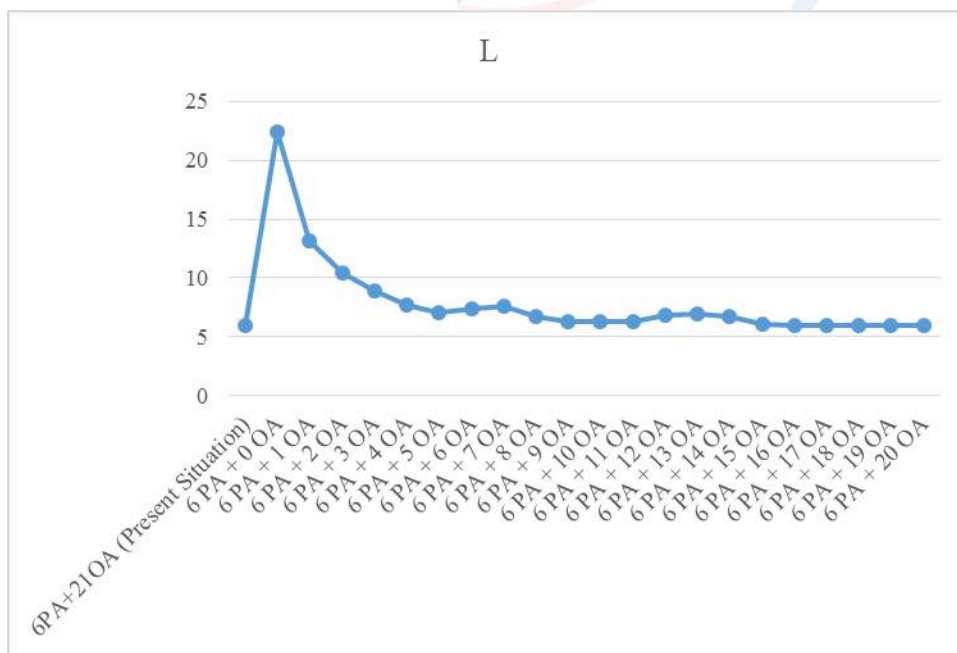
From Figure 7: When comparing the average number of customers in the system (L) between the current situation and in case of a change in number of the outsource agents, it was found that the efficiency of queuing system on the average number of customers in the system (L) during a change in number of 15-20 outsource agents is between 6.10-5.98 persons which is closed to the current situation which is = 5.91 persons.

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 8: Comparison of the average number of customers in line waiting for service (Lq) between the current situation and in case of a change in number of the outsource agent

From Figure 8: When comparing the average number of customers in line waiting for service (Lq) between the current situation and in case of a change in number of the outsource agents, it was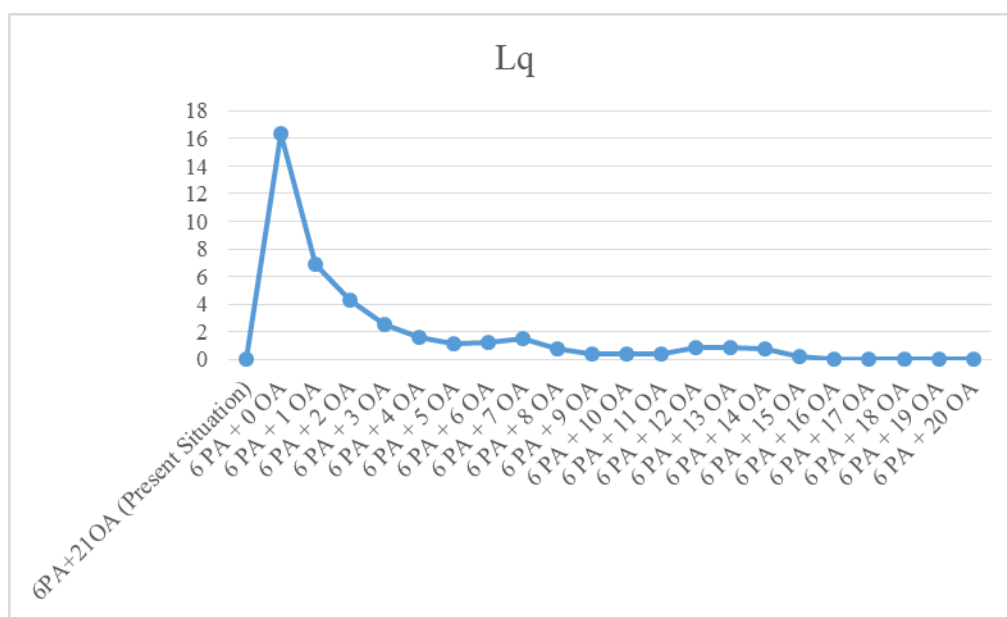 found that the efficiency of queuing system on the average number of customers in line waiting for service (Lq) during a change in number of 15-20 outsource agents is between 0.05-0.01 person which is closed to the current situation which is = 0.01 person.

Number of agents: *PA=Permanence Agents,*OA=Outsource Agents

Figure 9: Comparison of the average utilization rate between the current situation and in case of a change in number of the outsource agent

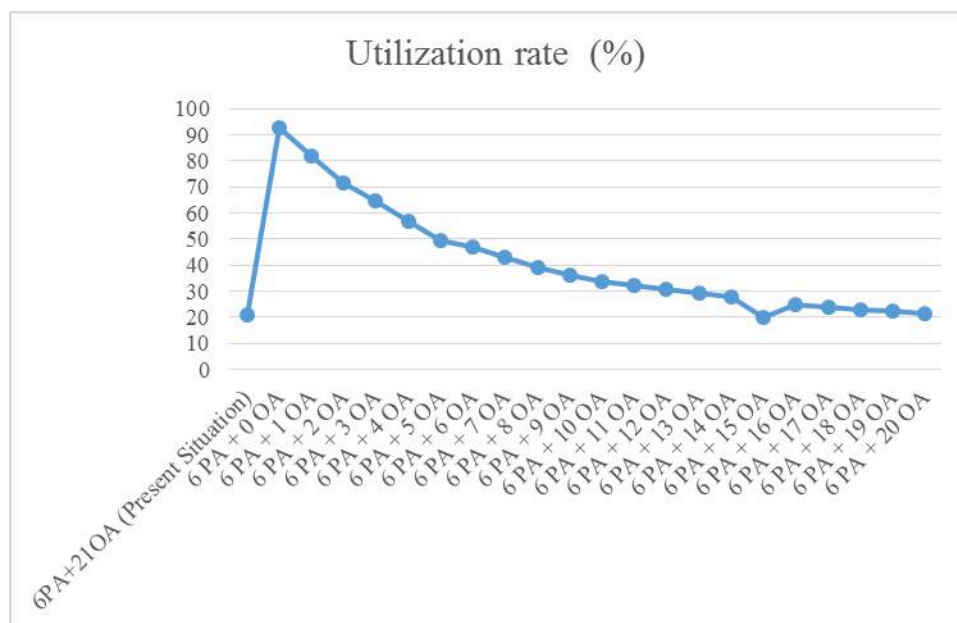From Figure 9: When comparing the average utilization rate between the current situation and in case of a change in number of the outsource agents, it was found that the efficiency of queuing system on the average utilization rate during a change in number of 15-20 outsource agents is between 20.05-24.68% which is closed to the current situation which is = 21%.

Conclusion

The simulation study results on efficiency of the queuing system of call center of Organization A by using ARENA Simulation Program revealed that even though there is a change in number of 15-21 outsourcing agents, the efficiency values of queuing system are still close to the current situation where 21 outsource agents are employed. This can signify that if the number of the outsource agents are reduced by 6 persons, the efficiency values of queuing system are still close to the current situation. Therefore, for optimum cost efficiency on employment, the management of call center of Organization A should employ only 15 outsource agents and should assign 6 remaining outsource agents to perform other works or delay employment of the outsource agents in the long term.

References

Chomchai, Y., & Chancharatsuk, U. (2013). Performance Improvement of Queuing System by using Simulation. A Case study: The out Patient Department, Lamlukka Hospital. (In Thai). Ladkrabang Engineering Journal, 30(1): 43-48, Retrieved November 15, 2104, form
http://www.kmitl.ac.th/lej/PDFjournal56/Volume30_No1_MAR2556_(8).pdf

Duong, T., Huu, N. D., & Nguyen, T. (2013). Adiabatic Markov Decision Process with Application to Queuing Systems. Proceeding of Information Sciences and Systems Annual Conference, 47, 1-6, Retrieved December 2, 2012, form
http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6552321&tag=1

Gurumurthi, G., & Benjaafar, S. (2004). Modeling and Analysis of Flexible Queuing System. Journal of Naval Research Logistics, 51(5), 755-782, Retrieved February 15, 2014, form http://onlinelibrary.wiley.com/doi/10.1002/nav.20020/epdf

Kembe, M. M, Onah, E. S., & Lorkegh, S. (2012). A Study of Waiting and Service Costs of Multi-Server Queuing Model In Specialist Hospital. International Journal of Scientific & Technology Research, 1(8): 19-23, Retrieved November 15, 2104, form http://www.ijstr.org/final-print/sep2012/A-Study-of-Waiting-And-Service-Costs-of-A-Multi-Server-Queuing-Model-In-A-Specialist-Hospital.pdf

Olaniyi, T.A. (2004). An Appraisal of Cost of Queuing in Nigerian Banking Sector: A Case Study of First Bank of Nigerian Plc, llorin. Journal of Business & Social Sciences. 9(1): 139-145, Retrieved November 15, 2104, form
https://www.unilorin.edu.ng/publications/olaniyi/PUBLICATION%201.htm

Patomsuttirut, V., Piriyakul, M. (2013). Decision Support System on the Administration of Data Service Agents at Social Security Call Center # 1556. (In Thai). Management Journal Faculty of Management Science Lampang Rajabhat University, 6(1): 55-62, Retrieved November 15, 2104, form
http://www.mgts.lpru.ac.th/journal/index.php/mgts/article/view/31/30

Pisuchpen, R. (2010). Simulation with Arena Solutions Manual (Rev.ed). (In Thai). Bangkok : SE-Education.

Render, B., Stair, R., & Hanna, E. M. (2012). Quantitative Analysis for Management. 11th ed. New Jersey : Prentice Hall International, Inc.

Rosenquist, C.J. (1987) Queuing Analysis: A Useful planning and Management technique for radiology. Journal of Medical System, 11(6): 413-414, Retrieved November 20, 2104, form
http://link.springer.com/article/10.1007/BF00993008

Rungpeng, P. (2013). Simulation of queuing systems for outpatient service: a case study of the internal medicine at Phatthalung hospital. (In Thai). Veridian E-Journal, 6(3): 834-845, Retrieved December 15, 2104, form
http://www.ejournal.su.ac.th/upload/770.pdf

S. K. Dhar, Tanzina Rahman. (2013). Case Study for Bank ATM Queuing Model. Journal of Mathematics, 7(1): 01-05, Retrieved November 20, 2104, form http://iosrjournals.org/iosr-jm/papers/Vol7-issue1/A0710105.pdf

Taha, Handy A. (2007). Operation research: an introduction. 8th ed. New Jersey : Pearson Education, Inc.

Vanichbuncha, K. (2010). Quantitative Analysis.(In Thai). 1st ed. Bangkok : Chulalongkorn Business school.

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Satisfaction Towards Counselling Services Among Gifted Students at the National Gifted Center In Malaysia

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Abstract

Counselling and guidance services in schools are comprehensive. It includes programs on development, prevention and rehabilitation. In schools prevention programs are conducted more than rehabilitation programs. Among the services provided in the school counselling unit, are the academic guidance, career guidance, advice on psychology and mental health, leadership programs, and individual or group counselling. School counsellors have become boosters for student in many schools to produce quality young generation. However, the challenges created by current modernization, cause the responsibility of moulding a generation who can really appreciate the broad personality traits, is not an easy task especially for gifted student. The purpose of this study is to identify the level of satisfaction on the counselling services among gifted student in PERMATApintar Gifted Center, National University of Malaysia. A total of 61 gifted students participated in this study. Respondents are required to answer a questionnaire. This research use quantitative method of analysis. Finally, the analysis showed that generally students in this center are moderate satisfied with the counselling services provided.

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Introduction

Vision counselling services in schools is creating a climate conducive educational, therapeutic and effective aspects of physical, communication and management based on the concept of counselling and guidance services overall quality and effective for the excellence of students and schools. In addition, the mission also with a sense of responsibility and diligence in providing help and assist students in terms of enrichment, development, prevention and rehabilitation to enhance the knowledge, skills and positive self-concept may be necessary in producing communities 'civil' through counselling and guidance services effective, trustworthy based on national educational philosophy.

In addition, counselling and guidance services in schools has a philosophy that every student has the potential to be trained optimally through comprehensive management counselling and guidance services that are efficient, effective and trustworthy based on internal and external sources to produce students with a balanced aspects of intellectual, physical, emotional, social and spiritual as well as believe and do righteous deeds.

So, student satisfaction of counselling services is an important element in determining the effectiveness of the quality of services provided by an organization, especially in school counselling. The emphasis on satisfaction is very important to gain the trust of clients to counselling services. Therefore, to ensure an improvement in the quality of services provided in school counselling, school counselling teachers should take into account the needs of clients as key to the success of a counselling process undertaken either individual counselling or group counselling. Satisfaction with counselling services in schools can be achieved when the effectiveness of counselling techniques used by teachers in the course of counselling a counselling session is recognized by clients or students who get this service. In addition, amenities and services available in the counselling room to meet the needs and requirements of the client is also a contributor to the satisfaction of the students who received counselling services.

In general, the effectiveness of counselling services can be seen when there are multiple types of counselling services offered in schools and other facilities available in the counselling room. It is also because of counselling services are one source of indirect learning. Better yet, if counselling services in schools are the storehouse of knowledge that cannot be separated from the mainstream of information technology. This is because counselling services also play a role in the management of information and also provide information appropriate to the needs of students such as career information. With the center of effective counselling services in schools, this service allows students to gain insight in schools especially solve educational problems and have a private well.

1.   Satisfaction

Satisfaction can be defined as the subject satisfied, relief, pleasure, (council language dictionary fourth edition). Besides that, satisfaction can be defined as the fulfilment of one's wishes, expectations, needs, or the pleasure derived (Oxford dictionary).
Satisfaction is a feeling that is felt by a person against acceptance (either product or service) that meet what is expected by individuals (Hom, 2002). Individual

satisfaction levels differ from each other depending on the level of expectations set by the individual against services received. Therefore, gifted students will achieve the satisfaction of counselling and guidance services if counselling and guidance services procured meet the expectations, needs, or pleasure to him.

2.   Counselling and Guidance Services

3.1   Counselling
Even so legally in Malaysia definitions given in the Counsellors Act 1998 was adopted, namely:
"Counselling is a systematic process to help relations based on the principles of psychology that are conducted by counsellors registered in accordance with the code of ethics counselling to achieve a change, progress and holistic solutions, both on a personal and voluntary clients so that changes, improvements and adjustments that will continue throughout the life of the client. "

3.2   Guidance
Gladding (2000) also said guidance is a process of helping people makes important choices that affect their lives, such as choosing a preferred lifestyle. While Daresh (1996) said guidance as a process to help individuals understand themselves and the world around him so he can use the skills, capabilities and talents to the fullest. In general it can be concluded counselling is a process that is planned to help individuals understand themselves and nature.

3.3 Counselling and Guidance Services
Based on the definition of counselling and guidance, it can be concluded that counselling and guidance services is a process of helping relationship based on the principle of systematic psychology. The service is run by professional counsellors to assist the development and adaptation of client personal good and thorough.

3.   Gifted Student

Intellectually gifted children and youth are those who perform or who have demonstrated the potential to perform at high levels in academic or creative fields when compared with others of their age, experience, or environment. These children and youth require services not ordinarily provided by the regular school program. Children and youth possessing these abilities can be found in all populations, across all economic strata, and in all areas of human endeavour, U.S Department of Education (1993).
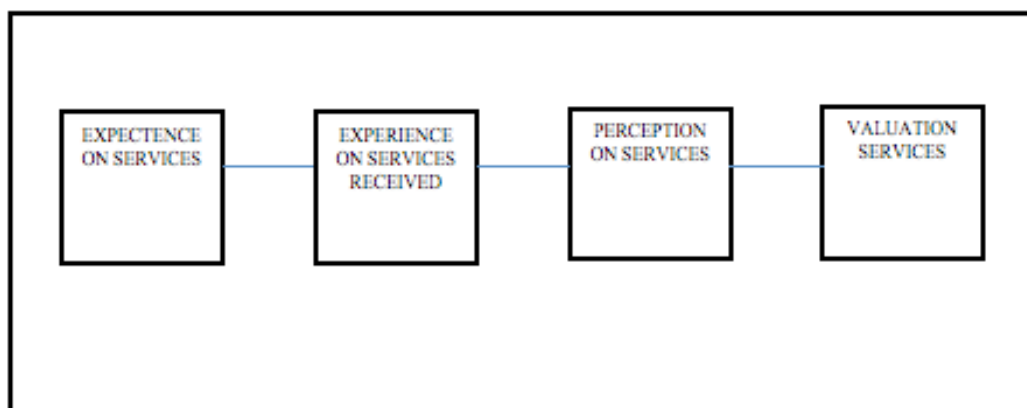
4. Model of Customer Satisfaction

Figure 1: Model of Customer Satisfaction by Willard C.homes 2012 in Aslina Arshad (2008)

5. Problem Statement

Opinion on intelligent and talented students are those students who are stable and do not have any problems in the aspects of physical, psychological, social, and emotional development have long been dismissed as mere myth (Abu Yazid & Aliza, 2009; Rohaty 1992; Myers & Pace, 1986).

Various researches in the field of gifted education find smart student group is usually confronted with diversity affective issues and psychological than ordinary students (Neihart et al., 2002, Bailey 2007). In addition, the Bee (1999) found that children who higher level of intelligence face adjustment problems than peers. Ng and Sandiyao (2005) also concluded that socio-emotional problems often erupted among talented gifted students themselves stem from the unique nature and environmental factors.

This is consistent with the view of Davis and Rimm (2004) who pointed out that usually the higher level of intelligence of a person, the higher requirement of counselling should be given to him. However, the fact that the results of the investigation that led to the aspects of psychology and support system for gifted and talented student population is very limited once run (Silverman, 1993; Noriah & Abu Yazid, 2010).According to Lovelock (1998), the measurement of quality of service or program is absolutely important as planning strategies to improve services or programs offered.

6. Research Objective

6.1   General Objective
This study aims to identify the level of satisfaction on the counselling services among gifted students at National Gifted Center in Malaysia.
6.2 Specific Objectives
The specific objectives of this study were: -
1.   To identify satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia.

2. To identify the difference of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia based on gender.

3. To identify the difference of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia based on races.

7. Research Question

1. What is level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia

2. What is the difference level of satisfaction to the counselling services among gifted students at National Gifted Center in Malaysia based on gender?

3. What is the difference level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia based on races?

8. Research Hypothesis

The hypothesis of this study is formed by four research questions.

H0 1. There was no difference of satisfaction to the counselling Services among gifted students at National Gifted Center, National University of Malaysia based on gender.

H0 2. There was no difference of satisfaction to the counselling Services among gifted students at National Gifted Center, National University of Malaysia based on races.

9.1 Research Design

This research will be conducted using quantitative research.

9.2 Location of study

Research site is in National Gifted Center, National University of Malaysia.

9.3 Samples Review

Samples were selected by purposive sampling. This is based on the opinion of Chua Yan Piaw (2012) that purposive sampling (purposive sampling) refers to the sampling procedure in which a group of subjects that have certain characteristics were selected as respondents. As accordingly, this research uses purposive sampling in which only gifted students as respondents study using one set of inventory Satisfaction questionnaire on the Counselling Services.

8.4 Data Collection

Quantitative methods are based on questionnaire will be used in this study.

9.5 Data Analysis

The data collected will be processed using the program Statistic Package for Social Science (SPSS) and then analysed using descriptive statistics and statistical inference. Descriptive statistics were used were mean, standard deviation, and percentage; while statistical inference used was t-test and ANOVA.

9.6 Limitations of Study

This study will involve gifted students at National Gifted Center, National University of Malaysia.

9.   Finding

In this study, researchers have been using descriptive statistics. Usage statistics descriptive to describe the overall level of satisfaction with counselling services among gifted students based on factors demographic. Descriptive statistical analysis in this study involved many standard deviation, frequency, mean and percentage.

a.   Level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia

To obtain research results about the level of psychological well-being among gifted and talented students based on gender, the researcher used the descriptive analysis. Therefore, to find a general overview of the research data can be briefly seen in the descriptive tables containing research data functions of basic statistics presented in detail in the following table:

Table 1 :Level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia

	N	Minimum	Maximum	Mean	Std. Deviation
Satisfaction	61	70.00	194.00	157.00	19.946
Valid N (listwise)	61				

Based on Table 1 above was found that the minimum score is set at a score of 70 and a maximum score is the score of 194. In addition, the score Level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia shows the score (M = 157.00, SD = 19 946) and is currently in Phase interpretation. It can be concluded that the level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia, subjects in this study were in the category of moderate level.

b.   Difference level of satisfaction to the counselling services among gifted students at National Gifted Center in Malaysia based on gender.

H_{o1}: No Difference level of satisfaction to the counselling services among gifted students at National Gifted Center in Malaysia based on gender.

To answer the above hypothesis tests Independent t test carried out to identify Difference level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on gender. Independent t test analysis results can be elaborate test as shown in Table 2.

Table 2: Difference level of satisfaction to the counselling services among gifted students at National Gifted Center in Malaysia based on gender.

Gender	N	Mean	Std. Deviation	nilai t	df	sig. (p)
Man	26	161.69	15.112	1.604	59	0.114
Woman	35	153.51	22.467			

Based on Table 2 above shows that the Difference level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on gender (t = 1.604, p> 0.05).

This shows that Ho2 fail rejected the No Difference level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on gender. It shows a balanced level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on lower female gender (Mean = 153.51, SD = 22,467) compared with the scores level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on male gender (Mean = 161.69, SD = 15 112) but showed little difference in the score. Therefore, the results showed no level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on gender.

c.   Difference level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia based on races.

H_{o2}: No Difference level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia based on races.

To answer the above hypothesis, the one-way ANOVA test performed to determine the level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on races. This study was conducted using SPSS to get the result. One Way ANOVA results can be seen in Table 3.

Table 3: Mean and Standard Deviation Difference level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia based on races

Race	N	Mean	Std. Deviation
Malay	39	158.03	21.538
China	13	155.31	18.621
India	4	149.75	14.546
Etc	5	159.20	16.828
Total	61	157.00	19.946

Based on Table 3 above shows that the Malays National Students have a level of satisfaction to the counselling services among the most highly gifted students (M = 158.03, SD = 21 538), Other students also have a level of satisfaction to the counselling services among gifted students who high (M = 159.20, SD = 16 828), China Nations students who have a level of satisfaction to the counselling services that are among gifted students (M = 155.31, SD = 18 621), and the Indians have a level of satisfaction to the counselling services among gifted students who are (M =

149.75, SD = 14 546). Subsequently, however,. To see the difference is more significant then watch One Way ANOVA analysis on the following table.

Table 4: Difference level of satisfaction to the counselling services among gifted students at National Gifted Center, National University of Malaysia based on races

	df	Sum of Squares	Mean Square	F	sig. (p)
Between Groups	3	312.706	104.235	0.252	0.859
Within Groups	57	23557.294	413.286		
Total	60	23870.00			

One Way ANOVA analysis results such as Table 4 shows that the No Difference level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia races based on value (p = 0.859> 0.05). Study results showed that the null hypothesis is rejected fail. Therefore, No Difference level of satisfaction to the counselling services among gifted students at the National Gifted Center, National University of Malaysia based on races

10. Conclusion

In this study, several conclusions were made based on the analysis in SPSS. The findings show that the levels of satisfaction with counselling services among gifted students are on moderate level. This is measured by the level of perception, awareness and satisfaction gifted students who attend counselling sessions at the National gifted center. While the study found that the level of effectiveness is on moderate levels based on perception, awareness and satisfaction of students to counselling services, but the department of counselling and guidance should make careful planning for ensure quality of service can be guaranteed and the program objectives is reached with increase efforts to improve the quality of services.

11. Recommendations

Based on the discussions and conclusions that have been made, there is some suggestion which can be addressed and dealt.

i. Research
Counselling and guidance unit should carry out surveys prior to execution of a program. Action research also needs to be made to the program carried out to detect any problems that arise from time to time. Appropriate action should be taken to rectify any shortcomings that each time the program is run it is really effective. With this any problems that may arise can be detected at the grassroots level and can be addressed immediately. Research studies can also help these centers make changes and improvements in the program or service provided.
ii. Publicity / Promotion
Counselling and guidance unit should expand the publicity and promotion of the programs with students so that the students know about the purpose of the program or

service. The publicity and promotion should be continuous and should be seen as a form of advertising that attracts and effectively.

iv. Implementation

Counselling and guidance unit must ensure that all programs or services are performed by an organized and orderly. Thefore, counselling and guidance unit should have a monitoring system (monitoring) are sufficient for the program or service. Supervision at all levels needs to be made from time to time.

References

Abu Yazid, AB & Aliza, A. (2009). *Psychological support and socio-emotional gifted students*. In Noriah M.I., Rosadah A.M. & Siti Fatimah

Abu Yazid Abu Bakar & Noriah Mohd Ishak (2012). *Profile Of A Psychological Issues, Strategies Of Martial And Patterns Among Students In Need Counselling Smart And Talented: A Case Study*. Journal Of Special Needs Education. Vol. 2.

Aminah Hj. Hashim. 1984. Counselling and guidance in Secondary Education. Journal ACES. Counsellors Association of Malaysia. 1: 21-27.

Amir Awang (1989). In Helping Relationship Counselling and Consultancy, Publisher Universiti Sains Malaysia, Penang.

Aslina Arshad (2008). *The Research on Perception of Awareness and Satisfaction among the Public towards JPA Special Day Program with Customers, Organized By Malaysian Public Sevice Department*. University of Malaya.

Azhari Hj. Abd. Rahman. 1998. Students Against perception of Guidance and Counselling Services. Universiti Utara Malaysia.

Bailey, C. L. (2007). *Social and emotional needs of gifted students: What school counselors need to know to most effectively serve this diverse student population.* Paper presented at the 2007 Association for Counselor Education and Supervision Conference, October 11-14, Columbus, Ohio.

Berlin. (2009) *It's All a Matter of Perspective: Student Perceptions on the Impact of being Labeled Gifted and Talented.* Roeper Review, 31 (2009), pp. 217–223

Chan, 1999. *Counselling gifted students in Hong Kong: A critical need.* Education Journal, 27 (2) pp. 145–154

Chua, Y. P. (2012). *Mastering research methods. Shah Alam: Mcgraw-Hill Education* (Published date: 15 June 2012). ISBN: 978-967-5771-41-5, number of pages: 372

Counsellors Act 1998 (Act 580). Counsellors Act 1998 (Act 580) and Regulations. (2005). Kuala Lumpur: International Law Book Services.

Davis, G., & Rimm, S. (2004). *Education of the gifted and talented* (5th ed.). Boston: Allyn and Bacon.

Lovelock, C., Wright, L., (2005) Marketing Management Services, Jakarta: PT. INDEX Gramedia Group.

Neihart, M., Reis, S. M., Robinson, N. M., Moon, S. M. (Eds.). (2002). *The social and emotional development of gifted children: What do we know?*. Waco, TX: Prufrock Press, Inc.

Ng S.F. & Sandiyao, S. (2005). *Socio-emotional problems of children gifted.* Problems of Education, University of Malaya, *pages 5-12*

Silverman, L. K. (Ed.). (1993). Counselling the gifted and talented. Denver, CO: Love.

The Risks of Purchasing Superficies Right-Based Housing: The Perspective of Consumer Protection

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Abstract

This paper investigates the risks of buying superficies right-based housing for consumers and takes the Zone T-9 development project in Taipei city as a case study. It explores the potential risks consumers face when purchasing such housing and the question of how they can safeguard their personal rights and interests. Interviews were conducted with scholars of related fields and industry specialists who have participated in this project. Based on the results of an analysis of the literature and the conducted interviews, the author found that consumers face five major risks in the future use of superficies right-based housing: the lease contract periods, formalized contract provisions in violation of integrity principles, inability to list lease rights as mortgage objectives, taxation-related issues, and existence/absence of priority principles with regard to ordinary creditor's rights. Finally, this paper suggests that as consumers' rights and interests are impaired, they can claim rights with regard to special trusts and execute the right of withdrawal after consumer lending and use arbitration law to protect their rights and interests. However, as consumers buy these kinds of commodities, they still should carefully assess the abovementioned risks.

Keywords: Superficies right-based housing, Housing usage rights, Housing Use certificates, Lease Contracts, Mortgage

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Introduction

In recent years, housing prices in exquisite areas in urban centers in Taiwan have remained constantly high. The highest prices are recorded in the Taipei area. Recent statistics published by Realtors reveal that the house price to income ratio is a whopping 11.9 in Taipei City. In other words, homebuyers have to spend an amount equivalent to 11.9 years' salary when purchasing housing in Taipei City. The house price to income ratio in the three major urban areas of Taoyuan, Taichung, and Kaohsiung, on the other hand, does not exceed 4.5 (less than half as high as in Taipei).

Due to the prevalent traditional belief in Chinese society that land possessions equal wealth, the ownership rights for the building and the land are usually tied together for housing purchases. This is the main reason why prices are so high. A separation of the ownership rights of the land and the building would result in a significant reduction of housing prices. This phenomenon led to the birth of superficies right-based housing (sales are confined to the ownership rights or usage rights for the building) as a new commodity. Superficies right-based housing has turned into a hot commodity in Taipei City. Notable examples of hot-selling superficies right-based projects in Taipei City include the "Zone T-9 Joint Development Project – Q Square" in the vicinity of Taipei Main Station (below referred to as "Zone T-9 Q Square"), "Regency Tokyo" in the Ximending District, "Taipei Garden" in the Xinyi development zone, "Nanjing 333" on Nanjing East Rd, "Nanjing Donglu" and "DC Plaza", and "Baocheng Hepan Huangjia" on Tayou Road.

In addition, the sale of designated surface rights through public bidding has also turned into one of the strategies for the activation of assets of state-owned enterprises in the context of relevant policies in recent years. (Ministry of Economic Affairs, 2013). This also indirectly stimulated the sale of superficies rights for state-owned land through public bidding. Superficies rights have also turned into one of the mainstream commodities of the future real estate bidding market. This is one of the main factors spurring the growing popularity of superficies right-based housing.

As for the signing of contracts for the purchase of housing usage right certificates by consumers, both residential and office areas must be entrusted due to the regulations pertaining to development and management of the project. The management team of this project therefore entrusted the ownership rights for residential and office areas to banks before the initiation of sales. Consumers therefore signed a "Contract for the Transfer of Usage Rights for Residential and Office Assets for a Fixed Period and the Lease of Superficies Right-based Land in the Context of the Zone T-9 Development Project in the Taipei Main Station Designated Area" directly with the banks. The term for the lease of superficies right-based land and the usage rights begins on the possession date and ends on January 25, 2054.

If the contract is terminated before January 25, 2054, the lease term for the superficies right-based land and the usage rights will expire simultaneously (See Fig.1). As a matter of fact, consumers purchase "housing usage certificates" and are therefore only entitled to the transfer and resale of these certificates. The absolute legal validity of the housing usage certificates of "Zone T-9 Q Square" differs greatly from that of other types of superficies right-based housing.

The former only represents a certificate of creditor's rights behavior in form of a private contract, while the latter constitutes a title deed issued by government agencies. Furthermore, housing usage certificates of "Zone T-9 Q Square" also differ from general housing lease rights. Upon expiry of the housing usage term, consumers must unconditionally vacate the property and may not exercise the guarantee of "Sale does not Break the Lease". The contract guarantee risks associated with the purchase of housing usage certificates for superficies right-based housing therefore require further clarification. This represents the first research motivation of this paper.

Moreover, according to the regulations prescribed in Article 449 of the Civil Code, the term of a lease contract may not exceed 20 years. Consumers therefore acquire termed "Zone T-9 Q Square" housing usage certificates in form of two 20-year and one 5-year contracts (for a total of 45 years) in the context of this special housing sale project. Article 840 of the Civil Code states that "Upon expiry of the designated term for the superficies rights of general superficies right- based real estate, the owner of the land shall compensate the superficiary based on the market price of the buildings. The superficies right term may be extended based on agreements between the land owner and the superficiary who may continue to use the housing".

However, the purchasers of housing usage certificates of the "Zone T-9 Q Square" are not entitled to compensation in accordance with Article 840 of the Civil Code upon expiry of the usage term. The rights of consumers are therefore not safeguarded as should be expected (Department of Government Ethics, Taipei City, 2006).

Consumers are not entitled to lease rights for this project and they are therefore in a disadvantaged position as far as the safeguarding of their rights and interests are concerned compared to the lease right, ownership right, and superficies right status of traditional real estate transactions. In view of the disadvantaged position of consumers who have purchased housing usage certificates, the protection of their housing rights and interests is an issue which deserves closer scrutiny. This issue is the second research motivation of this paper.

⑤Upon the expiry or early revocation of surface rights the trustee should transfer specified assets to the beneficiary such as Taipei City surface rights

①Formulation of a development and management contract and signing of a surface right contract

Organizer

Trustee

②Formulation of a trust

④ Assets are returned one year before termination of operations or upon early revocation of rights

Entrustment of specified assets (46 years)

Developer

③Transfer of usage rights for 45 years
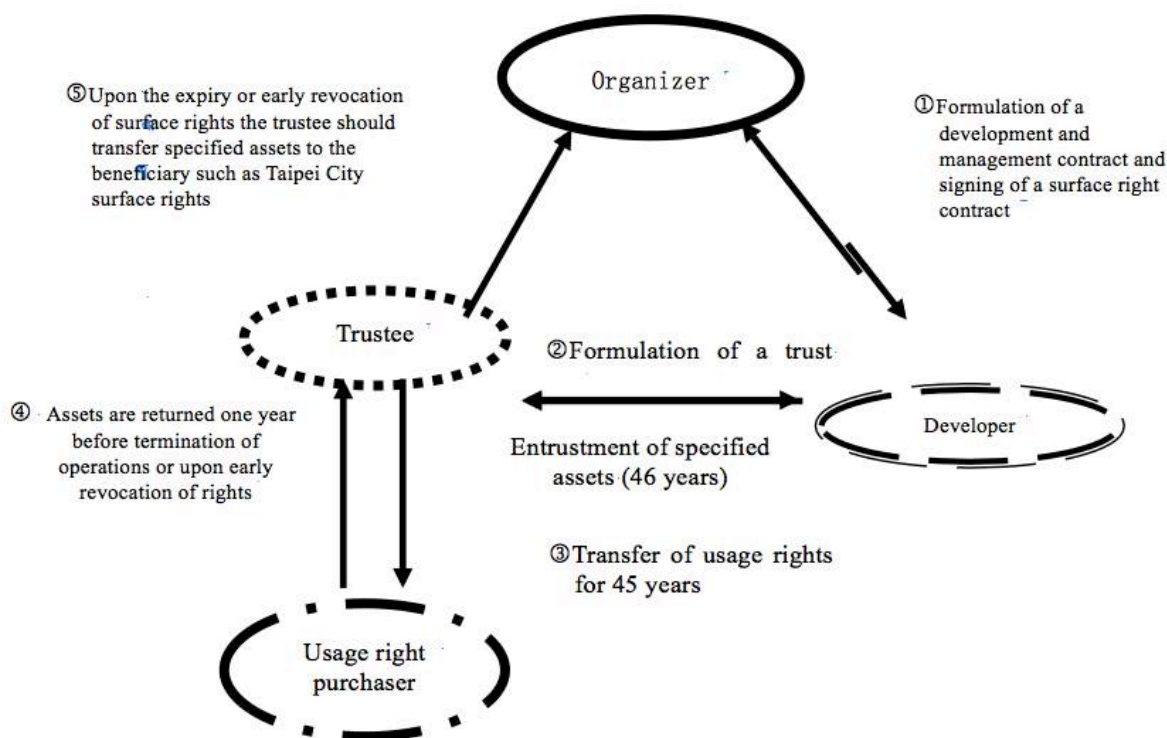
Usage right purchaser

Fig.1 Trust operation model and flow chart for Zone T-9 Transit Station BOT Project

Data source: Xiu-Ju Liang (2006)

An ordinance from the Finance Ministry in 2004 states that the buyer of housing built on state-owned land whose superficies rights have been acquired through public bidding is only entitled to usage rights. Similarly, a tenant is not entitled to use superficies right-based housing for which a usage certificate has been issued for a period of 50 years as collateral for a bank loan. Applications for bank loans are therefore hard to obtain since only a very small number of banks are willing to grant loans to purchasers of certificates and the interest rates are comparatively high (around 3.5-4%) and LTV ratios are low. Consumers therefore face potential loan risks when purchasing usage certificates for superficies right-based housing. This requires further analysis and constitutes the third research motivation of this paper.

Since the purchase of housing usage certificates for "Zone T-9 – Q Square" by consumers, official land prices have increased by 40% over a period of three years (as of 2013). However, consumers are not required to pay land value increment taxes when selling their rights since they are not the owners of the land or building structures. Consumers therefore face risks associated with changes of taxation and relevant fees when purchasing certificates for superficies right-based housing. This represents the fourth research motivation of this paper.

This paper analyzes the "Zone T-9 - Q Square" project from the perspective of consumers. Potential risks consumers face when purchasing housing usage certificates and potential effects on their rights and interests are analyzed through a literature review and interviews with three scholars of related fields and industry specialists who have participated in this project. The main research objectives can be summed up as follows:

1. Exploration of the different risks associated with the purchase of housing usage certificates for superficies right-based housing
2. Analysis of how to safeguard the rights and interests of consumers who purchase housing usage certificates for superficies right-based housing

Reference literature

1. Right of disposal of superficies rights, transfer, and provision of guarantees

The definition of superficies rights has turned into a new favorite in all sectors. Although there is no lack of examples for the lease of surface rights for land under the current system, the regulations of the ROC Civil Code are not sufficient to regulate the relevant legal relationships as far as the management of land use is concerned, let alone consolidate superficies rights to stimulate social and economic development. Regulations governing obligations and rights of the superficiary are either lacking or unclear. This not only impairs the rights and interests of involved parties but also the social benefit associated with superficies rights. An affective consolidation of superficies rights is therefore conducive to social and economic development. This issue is of great concern for the development and use of land data and there is an urgent need for legislative action with regard to this issue.

2. Lease rights of superficies rights

A right in rem is a right of disposition and may be freely disposed of. In other words, ownership rights, usufructuary rights, or real rights of security may be freely transferred to other people. Whether or not lease rights can be freely transferred, sublet, or disposed of is an indicator to determine whether or not lease rights are rights in rem. Due to the fact that the Civil Code defines tenancy relationships as debt relations with a focus on the human element, the transfer or subletting of lease rights without permission has no legal effect on the lessor who may use this as a reason to terminate the lease contract (Article 443 of the Civil Code). However, in the field of real estate lease (particularly the lease of land), a proper acknowledgement of the right of lessees to freely transfer, sublet, or dispose of land lease rights is deemed necessary to allow the land lessee to recover the capital invested in structures on the land.

3. Formalized contracts with regard to superficies rights

The terms and conditions of formalized contracts have been formulated in advance by enterprise managers. Their counterparts (consumers) are usually not able to negotiate contracts before signing them or express their opinions. In case of doubts regarding formalized contracts, the users should bear the risks and interpretations should be favorable to the counterparts (Wei-Chao Lin, 2002)

4. Issues pertaining to the definition of superficies rights for state-owned land for non-public use

The legal basis for the definition of superficies rights for Taipei municipal land is provided in Article 65 of the Management Regulations Governing Taipei Municipal Property setting out that "Management authorities may devise appropriate usage plans for non-public use real estate, implemented upon approval by the city government, to increase revenues in accordance with the following regulations"(Yuan-Feng Lin, 2005) . Usage fees are charged in advanced and investors provide capital for the construction of housing, which may be used for a limited period. The city owns the property rights for these buildings. In addition, improvements may be made to the land and used for a limited period (property rights belong to the city). Finally, other appropriate uses that further the rights and interests are also permitted. The contract period for individual cases of definition of superficies rights for Taipei municipal land is 70 years. Upon expiry of the contract, building structures are transferred to the Taipei City Government without compensation.

Conclusion and recommendations

The "Zone T-9 – Q Square" development project is very complicated and complex. At the start of the project, it was planned how to evade the exercise of recourse rights by general creditors. This greatly harms the interests of consumers and generates no benefits. The terms and provisions of the contract are characterized by great inequality. The project also constantly skirts the problems related to "Sale does not Break the Lease". The conclusion and recommendations provided in this section are as follows:

The usage rights for this project expire on January 25, 2054, whereupon all structures are claimed by the city government without compensation." Sales of housing usage certificates are presented in a way to mislead consumers into believing that they are equivalent to usage right transactions. Certain competent authorities or scholars even erroneously believe that these certificates are equivalent to 45-year lease rights. Housing usage certificates are not identical to lease rights. This point can't be emphasized enough. The fact that the term "usage rights" has been adopted instead of "lease rights" represents an innovative sales method. This is a clever strategy which is however highly controversial as far as business ethics are concerned. The advance sale of housing usage certificates by investors to raise funds from consumers partially transfers potential risks during the development process to consumers in an attempt to conceal the risks pertaining to construction and operations.
This leads to business ethics concerns and the generation of numerous unexpected problems.

The ownership rights to the land of the "Zone T-9 – Q Square" development project belong to the Taipei City Government and the Taiwan Railway Company. The property rights for the commercial building structures were entrusted to banks in a compulsory and unified manner during the development period. However, the 45-year housing usage certificates that consumers acquire by signing contracts with trustee banks are in violation of regulations of current laws that prescribe a maximum lease period of 20 years. Operators are suspected of evading existing laws and regulations through meticulous design and fail to safeguard the rights and interests of consumers in the "Zone T-9 – Q Square" development project. A special law should be enacted regarding the purchase of housing usage certificates to allow the application of regulations regarding lease contracts prescribed in the Civil Code. This will give housing usage certificates an independent status separate from lease, loan for use, and consumer loans. Legal loopholes will further negative investment practices on the part of operators in the future with this project as a precedent. This runs against the spirit of rule of law.

The problems evolving from the project should be addressed earlier than preventable legal problems. Are the two 20-year contracts and the 5-year contract which are not in effect yet legally valid and what legal relationships should apply? What is the basis for claims in case of legal disputes with regard to rights and benefits? Scholars, specialists, and legal experts interpret these issues in different ways. The government should establish a comprehensive legal foundation in a timely manner.

This project pioneered the sale of housing usage certificates. This strategy will lead to unprecedented problems. Ordinance No. 09731434000 issued by the Law and Regulation Commission of the Taipei City Government on June 5, 2008 clarifies that the so-called "housing usage certificates" are certificates which were created independently by the operators and competent authorities should be consulted regarding the relevant legal relationships. The commission is obviously shirking its responsibility and evades issues pertaining to strict legal responsibilities and the safeguarding of consumer rights and interests in the future.

Finally, this study recommends that the restrictions on compulsory execution of trust property prescribed in Article 12, Paragraph 1 of the Trust Law should be eliminated for consumers who purchased housing usage certificates

In addition, the "Zone T-9 – Q Square" Development project is based on a regulation prescribed in Article 12, Paragraph 1 of the Trust Law setting out that "Compulsory execution of trust property shall not be allowed". In other words, consumers are fully responsible for risks associated with inadequacies in the field of investor property or engineering quality control that lead to failure to meet contract obligations or disasters and incidents beyond human control during the construction or operation period based on the trust regulations. Due to the unequal access to information, compulsory execution cannot be achieved through recourse to appeal, not to mention the award of compensation.

Moreover, although it is clearly stated that "If amendments of government decrees, conditions beyond human control, or other factors that prevent the resale to the transferor upon the handover of designated residential and office assets lead to the termination of the development project or the loss of said residential and office assets, any party may terminate this contract and the transferor shall return the remaining amount of the contract price after depreciation to the transferee" and "If natural disasters, geological changes, or amendments of government decrees, conditions beyond human control, or other factors not attributable to to the transferor before the handover of designated residential and office assets lead to the termination of the development project or the suspension of construction of said residential and office assets, any party may dissolve this contract."

However, in view of the fact that the failure to fulfill debt obligations in the context of this contract cannot be legally contested and the regulations forbidding the compulsory execution of trust property, the restrictions on compulsory execution of trust property prescribed in Article 12, Paragraph 1 of the Trust Law should be eliminated for consumers who purchased housing usage certificates.

Additionally, the insurance mechanism should be strengthened and laws should be enacted prescribing that consumers who purchased housing usage certificates as transferees are eligible to receive all benefits and are responsible for all dangers upon handover of the designated residential and office assets. Benefits and dangers should be jointly borne by all parties. The government and the investors should make joint payments to strengthen the insurance mechanism to provide guarantees for consumers who purchased housing usage certificates under conditions of reasonable and normal usage. The government and the investors should assume joint responsibility for repairs, maintenance and compensation for designated residential and office assets, facilities, and equipment. Consumers should also not be responsible for repairs in case of public construction disasters due to improper construction or faulty planning or damage caused by natural factors. Even if contracts prescribe that the responsibility must be borne by consumers who purchased housing usage certificates, accountability should be based on the principles of fairness and integrity.

Finally, laws should be amended and enacted to guarantee preferential protection by special law for purchasers of household usage certificates as far as the use of special trust funds is concerned. The government should also provide rent subsidies in form of special purpose funds for ordinary housing and build BOT superficies right-based housing to prevent speculative behavior and stabilize housing prices.

References

Xiu-Ju Liang, "Analysis of the Promotion of Infrastructure Projects through BOT Models – Case Study of the Taipei Zone T-9 Transit Station", Unpublished MA Thesis, Graduate Institute of Political Science, National Taiwan University

Department of Government Ethics, Taipei City, *Stop, look, and listen – Pay attention to expiry dates with regard to housing*, http://www.judicial.gov.tw/ged/news_detail.asp?id=286, Last browsed on Sep 21, 2006

Yuan-Feng Lin, "Comparative analysis of common legal systems with regard to usufructuary rights in China and Taiwan with a focus on land use rights", MA thesis, Department of Law, Chinese Culture University (2005)

Wei-Chao, Lin, *Formalized Contracts of the Consumer Protection Act*, Wu-Nan Book Inc. (2002)

Ministry of Economic Affairs, *Special Report on the Review of Policies for the Activation of Assets of State-Owned Enterprises Subordinate to the Ministry of Economic Affairs*, Third Plenary Session of the Economics Committee during the 3rd Session of the 8th Legislative Yuan (2013)

A Case Study on the Lifeline of a Mother of Multiple Children with Disabilities and Faced Limitation of Prenatal Diagnosis

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Introduction

Having child with disability impacts on his/her parents' life, especially on mothers' quality of life (QOL). Gray (2003) reported that traditional gender role remain and most of child-rearing burden on mothers, and Oelofsen & Richardson (2006) found that mothers of children with disabilities have higher stress than those of fathers. However, the influences of other important events (eg; subsequent pregnancy, decision making about prenatal diagnosis, child birth and facing disability of another child) on mothers were not fully investigated. The purpose of this study was to examine the QOL trajectory of a mother of multiple children with disabilities by using the lifeline method.

Methods

Data collection

With the cooperation of an association for parents of children with disabilities, a mother of multiple children with disabilities was contacted in 2007. I performed the first semi-structured interview and asked her to draw a lifeline on a sheet of paper containing a vertical axis (psychological state: worst = −10 to best = +10) and a horizontal axis (time and event). In 2014, the second semi-structured interview was conducted and the mother was asked to report any changes since the first interview. In 2015, the third semi-structured interview was performed and the mother was asked to confirm the lifeline that she had drawn at the first interview, and add to the lifeline based on her current perspective.

Data analysis

All transcripts were created based on the recorded data and the memos, after each interview. Comparing with the lifeline, I identified what events were related to up and down of the lifeline, and how the mother expressed these events and assessed own psychological state.

Ethical considerations

This study was approved by the review boards of two universities in 2007 and 2014. Prior to each interview, informed consent was obtained.

Results and discussion

In December 2007, the mother was in her 40's, and had three children (boys): a high school student without any disabilities, and two elementary school students, one with autism and the other with a pervasive development disorders, unspecified. In July 2014 and January 2015, her first child had graduated university, while the second child had graduated from special needs school and was receiving daily welfare services for people with disabilities. The third child was a student in a special needs class in a public junior high school. The mother was still a homemaker, but her husband had taken an early retirement since the spring of 2014. At all three interviews, they were living in Tokyo, Japan. The lifeline of the mother is shown in figure 1, which illustrated time (T1−T9), main events and psychological states.
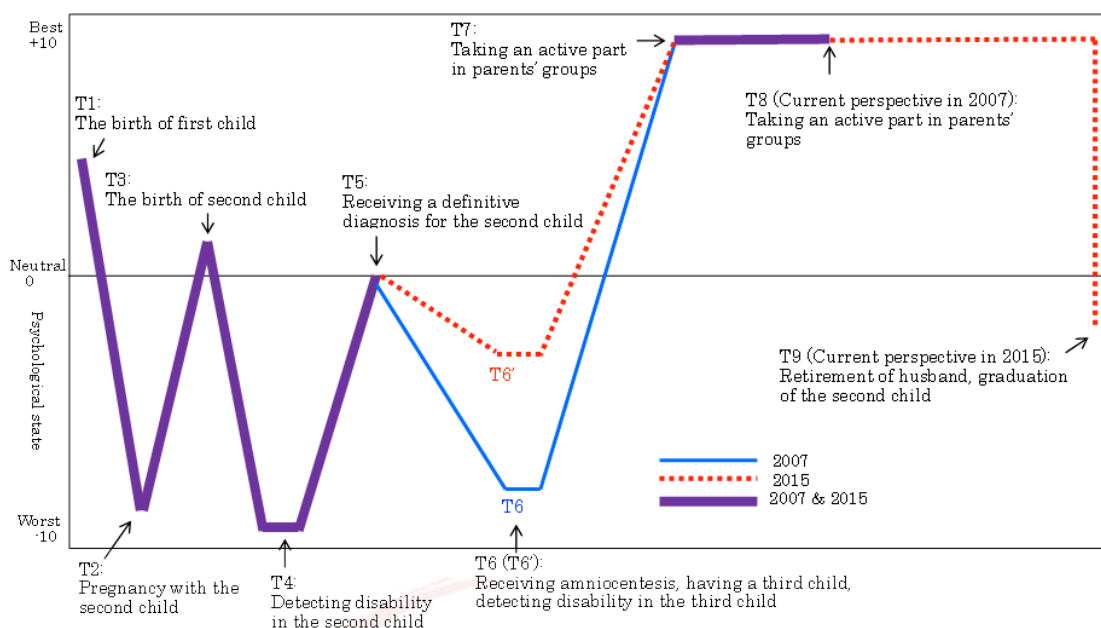
Figure 1: The lifeline of the mother of multiple children with disabilities

The worst point of the mother's QOL

Throughout the mother's lifeline, the worst point of her psychological state was detecting disability in the second child (T4, −9.5).

> *I took my second child to the healthcare center for his year-and-a-half physical examination, and a public health nurse said, "Your child did not look at me even when I called him, so he might be deaf, or if not so, it's too late." What? Too late? I didn't understand what she meant, but it really shocked me.*

Before the physical examination, the second child gave the mother a lot of trouble, but she did not consider any possibility of disabilities. I asked her whether she had compared the first child (who had no disability) with the second child, but she denied do so. She stated that because the first child had not had any disability, she had not believed that it was possible for the second child to have one. Thus, receiving the indication of disability was an unexpected event for her.

The impact of subsequent pregnancy and decision making about prenatal diagnosis, child birth and facing disability of another child

The mother congregated various events at this stage (T6), and gave it a −8 in terms of psychological state. She expressed her strong desire to have another child and prenatal screening without any hesitation.

> *I decide to have a third child because I wanted to reduce the first child's burden, but if the third had a disability, his burden would be increased. That's why I strongly desired a prenatal diagnosis. I decided to have an abortion if the result was positive, as raising multiple children with disabilities would be impossible for me.*

The mother had prenatal screening (amniocentesis), and its result was negative. Since the mother knew the prenatal screening was unable to detect developmental disabilities, she tried to believe, "It's OK." However, after the third child's birth, characteristics of developmental disabilities gradually appeared.

> *But...then...the third child, at about one-and-a-half years old, I had doubted his disability... I said, uh-oh, uh-oh... When I faced my second child's disability, I had waves where I didn't want to accept it. You'd think it'd be easier to accept the third child's disability because I had already overcome the waves, wouldn't you? But, when I faced my third child's disability, I also had waves...different waves...people may say, "What? The sibling too?" I imagined that...*

Facing children's disabilities multiple times must be difficult experience for the mother, but facing child's disability for the first time had a more negative impact on her than did the second time. In addition, after this event, her lifeline rose to its highest level, below.

The best point of the mother's QOL

The best point of the mother's psychological state was taking an active part in parents' groups for disabled (T7, +9).

> *I was depressed for almost half a year, after the disability in my third child was discovered. However, I prepared to immerse myself in a world of disability...I had no choice... the third child was maybe three years old, and that's when the lifeline rose to its highest level. I had already begun participating in an association of parents of children with disabilities, and was becoming an activist in parent groups [laughs].*

After facing disability of the third child, the mother had prepared to become immersed in the world of disabilities and taking an active part in the parents' groups that enhanced her QOL. At this stage, she seemed to have accepted the disabilities of both children.

The different perspective from the first interview

In 2015, although eight years had passed since the first interview, the mother reported almost the same life history and confirmed that the lifeline from the first interview was mostly correct. However, she did point out that one event—detecting the third child's disability (T6)—was less severe (at −3 rather than −8) from her current perspective.

> *Yeah, maybe...here? [pointing to −3, T6]. Of course, my feelings always go up and down, and I can't draw an exact line. But...yeah, it was not so low. Because, I had a lot of positive friends who had children with disabilities in parents associations, including mothers of multiple children with disabilities. I was not so bad at that time.*

> *I was a main member of the PTA (parent-teacher association), so even after the second child graduated from the special needs school this past spring, I still had*

some remaining work to hand over to the next member. But now, I have no remaining work for the PTA, so my schedule was blank. Also, I don't have enough money or any opportunity to go out with members of the parents association of children with disabilities, because of my husband. I can't think positively, and I may become depressed. My lifeline must have declined...

Nowadays, the mother had no opportunities to participate PTA activity and her retired husband had prevented her from pursuing activities in parents' associations for children with disabilities. Indeed, at this point, her psychological state had decreased from +9 to −2. Thus, depend on interview point; the same event could be different perspective. Moreover, latest event and condition may influence such perspective.

Conclusion

Facing the disabilities of multiple children had a negative impact on the mother, but it did not overwhelm her QOL entirely, rather, having relationships with other parents seemed to be an influential factor. In the most recent interview, the mother had lost opportunities to be active and her lifeline had declined, which resulted in a change in her perspective regarding facing the third child's disability such that it became more positive (-8 to -3). Thus, the perception of one's own past QOL could be changed by the current situation, and the lifeline method was useful to understand this process visually.
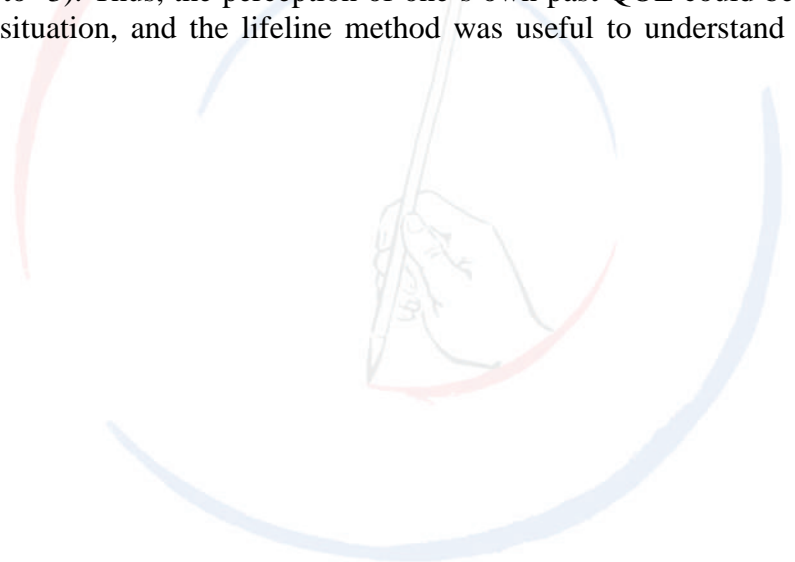
Acknowledgement

References

Oelofsen, N., & Richardson, P. (2006). Sense of coherence and parenting stress in mothers and fathers of preschool children with developmental disability. *Journal of Intellectual & Developmental Disability,* 31(1), 1-12.

Gray, D. E. (2003). Gender and coping: the parents of children with high functioning autism. *Social Science & Medicine, 56,* 631–642.

Cultural Differences in Psychological Reactance: Responding to Censorship

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Abstract
We examined cultural differences in psychological reactance in response to a threat of social media censorship among Iranian Canadians, European Canadians, and East Asian Canadians. Results indicated that Iranian Canadians (vs. European Canadians and East Asian Canadians) exhibited psychological reactance to a greater degree when the threat came from the government, and this cultural difference was mediated by direct and indirect experience with censorship. When the threat came from a student, however, there were no cultural differences in psychological reactance. These results are consistent with the notion that Iranians have more experience with restriction of information access and repression of freedom, and thus have a heightened sensitivity to freedom threat when it came from a powerful source.

Keywords: cross-cultural differences; reactance; resistance; persuasion; Iranian

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Introduction

People believe that they are free to engage in reasonable behaviors. Research conducted mostly in Western countries suggest that when this freedom to act is taken away from an individual, an individual would experience psychological reactance (Brehm & Brehm, 1981). Conceived of as a "motivational state directed toward the re-establishment of the free behaviors which have been eliminated or threatened with elimination" (Brehm, 1966, p. 9), psychological reactance leads to an increased likelihood to engage in the forbidden behavior (boomerang effect; Brehm & Brehm, 1981) or associate with someone who engages in the forbidden behavior (vicarious boomerang effect; Quick & Stephenson, 2007a). Psychological reactance can also be manifested in increased positive attitude toward the prohibited behavior as well as accentuated anger toward the source of threat (Brehm, 1966; Wicklund, 1974). Furthermore, people are more likely to experience psychological reactance if the concerned freedom is considered important and the source of the threat has the authority to impose the behavioral restriction or interference (Brehm & Brehm, 1981; Pennebaker & Sanders, 1976).

Censorship can be considered as a form of restriction of freedom to fully access information and hence should result in psychological reactance. In an earlier study on censorship and attitude change, it was found that when participants were told that an upcoming speech was censored (vs. not censored), they changed their attitude in line with the censored speech to a higher degree before hearing it, presumably because censorship threatened participants' freedom to access the information in its entirety (Worchel & Arnold, 1973). Additional studies have also found evidence for the boomerang effect following attempted censorship of TV programs (Bushman & Stack, 1996) and music (Simmons, 1992).

Brehm (1966) initially claimed that psychological reactance cannot be directly measured and thus can only be inferred. Subsequent research, however, conceptualized psychological reactance as a measurable motivational state that is characterized by a combination of negative emotional and cognitive responses. These responses would in turn lead to the above-mentioned psychological consequences (Dillard & Shen, 2005). For example, participants who read a high (vs. low) threat message were less likely to agree with the position advocated by the source and this effect was mediated by a composite index of anger and negative thoughts (Dillard & Shen, 2005; see Quick & Stephenson, 2007b for similar findings).

Culture and Psychological Reactance

One dimension of culture that receives a substantial amount of research attention from social scientists is individualism versus collectivism. People from individualistic cultures, such as those from Western Europe and North America, have a prominent independent self-view, emphasizing individual autonomy and uniqueness, whereas people from collectivistic cultures, such as those from Asia and Africa, have a prominent interdependent self-view, emphasizing group harmony and social hierarchy (Markus & Kitayama, 1991; Triandis, 1995).

Consistent with the idea that maintaining autonomy is a prioritized goal in individualistic cultural settings, it has been found that people from such cultures tend to experience more psychological reactance, compared with those from collectivistic cultures, such as East and South Asian cultures (Jonas, Graupmann, Kayser, Zanna, Traut-Mattausch & Frey, 2009; Savani, Markus & Conner, 2008, Study 5).

Whether attenuated tendency to exhibit psychological reactance in collectivistic cultures generalize to the Iranians, however, is currently unknown. The Iranian culture is considered relatively collectivistic, emphasizing respect for tradition and social hierarchy, as well as commitment to family and community (Bierbrauer, Meyer, & Wolfradt, 1994; Hofstede, 2010). Indeed, according to Hofstede's (1980, 2010), on a scale from 0 (highly collectivistic) to 100 (highly individualistic), the U.S. (90) and Canada (80) were found to be relatively individualistic whereas Iran (40), China (20), and South Korea (18) were found to be relatively collectivistic. Despite the general similarities between the Iranian culture and other collectivistic cultures, however, many Iranians have experienced and/or witnessed censorship (Mollanazar, 2011). This direct or indirect experience with censorship might make them especially sensitive to issues around repression of freedom to access information and exhibit a heightened level of psychological reactance in response to censorship, despite the general collectivistic characteristics of the Iranian culture.

The Present Study

The purpose of the present study was to examine cultural variations in psychological reactance, focusing on the Iranian culture. Due to their recent experience with censorship, we expected that Iranians would be especially likely to experience psychological reactance in response to a threat of social media censorship, particularly when this threat came from a powerful source. We included two cultural groups to which to compare the Iranian cultural group – people from European and East Asian cultural backgrounds. Consistent with the literature (e.g., Jonas et al., 2009), we expected that individuals from European North American (vs. East Asian) cultural backgrounds would exhibit a higher degree of psychological reactance because of higher level of individualistic orientation. Taken together, we expected that participants from Iranian cultural background would exhibit more psychological reactance than would participants from European cultural backgrounds, who in turn would exhibit more psychological reactance than would participants from East Asian cultural backgrounds when encountering a social media censorship threat that came from a powerful source (i.e., high threat). On the other hand, no cultural differences in psychological reactance were anticipated when encountering a social media censorship threat that came from a non-powerful source (i.e., low threat).

METHOD

This study was conducted in Canada and culture was operationalized as self-identified cultural background.

Participants

Seventy-five Iranian Canadians (49 female, 22 male, 4 did not report gender; M_{age} = 20.6, SD_{age} = 3.44), 132 European Canadians (91 female, 38 male, 3 did not report gender; M_{age} = 20.0, SD_{age} = 3.93), and 87 East Asian Canadians (69 female, 16 male, 2 did not report gender; M_{age}= 20.2, SD_{age} = 3.32) completed this study. Of the 75 self-identified Iranian Canadian participants, 14 (19%) were born in Canada, 54 (72%) were born in Iran, and 7 (9%) were born in another country (e.g., Norway). Of the 132 self-identified European Canadian participants, 116 (88%) were born in Canada, 16 (12%) were born in the United States or a European country (e.g., Bulgaria). Of the 87 self-identified East Asian Canadian participants, 50 (57%) were born in Canada, 37 (43%) were born in an East Asian country (e.g., China, South Korea). Both gender proportion, c^2 (2, N = 285) = 3.87, p = .15, and age[1], F(2, 278) = 0.49, p = .62, did not differ among the three cultural groups. Participants were recruited from a psychology undergraduate participant pool.

Procedure and Measures

This study was conducted online. Consenting participants first answered a few demographic questions (e.g., gender, age, ethnicity). Following this, they were randomly assigned to either the *low* threat or the *high* threat condition in which they read a passage on social media censorship. The passage was purportedly written by a first-year student (low threat condition) or the Canadian Government (high threat condition), promoting social media censorship (see Appendix A). After reading the passage, participants completed the following measures in the order presented and were subsequently debriefed.

State reactance.

Similar to Dillard and Shen (2005), state reactance in response to the passage on social media censorship was conceptualized as negative affective and cognitive responses, and was measured using nine items created for this experimental context (Iranian Canadians: α = .77; European Canadians: α = .78; East Asian Canadians: α = .64) (e.g., "The writing irritated me"; "The writing aggravated me"; "I think people should have the right to information"; "I think that every individual has the right to take part in social protests"). These items were rated on a 7-point Likert scale (1 = strongly disagree; 7= strongly agree).

Trait reactance.
Trait reactance was assessed using the Hong Reactance Scale (HRS; Hong & Faedda, 1996). This measure consists of 11 items (Iranian Canadians: α = .83; European Canadians: α = .79; East Asian Canadians: α = .68), rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). A sample item is "I become angry when my freedom of choice is restricted".
Attitude toward censorship.
Attitude toward censorship was measured using nine items (Iranian Canadians: α = .75; European Canadians: α = .84; East Asian Canadians: α = .74) from the General

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[1] Thirteen participants did not report their age.

Censorship (GC) subscale[2] of the Attitude Toward Censorship Questionnaire (ATCQ; Hense & Wright, 1992), rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). A sample item is "College officials have the right to ban persons with extreme views from speaking on campus".

Self-Construal.
Independence and interdependence were measured using the Self Construal Scale (SCS; Singelis, 1994). This scale contains 12 items to measure independence (Iranian Canadians: α = .81; European Canadians: α = .72; East Asian Canadians: α = .79) and 12 items to measure interdependence (Iranian Canadians: α = .79; European Canadians: α = .78; East Asian Canadians: α = .71), assessed with a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). Sample items include: "I enjoy being unique and different from others in many respects" (independence) and "It is important for me to maintain harmony with my group" (interdependence).

Censorship experience.

We used two questions to probe participants' experience of censorship. The first question was "Have you or anyone that you personally know experienced any type of social media censorship?" The second question was "Have you ever read a book or watched a movie with the knowledge that it was censored in some form?" Participants who answered "yes" to either question were scored as having direct or indirect censorship experience whereas participants who answered "no" to both questions were scored as not having any direct or indirect censorship experience.

Results

State Reactance

A 3 (Culture: Iranian vs. European vs. East Asian) × 2 (Threat: Low vs. High) between-subjects ANOVA indicated that there was no main effect of Culture, $F(2, 288) = 0.29$, $p = .75$, $\eta_p^2 < .01$, or Threat, $F(1, 288) = 1.46$, $p = .23$, $\eta_p^2 = .01$. As anticipated, the interaction effect between Culture and Threat emerged, $F(2, 288) = 4.46$, $p = .01$, $\eta_p^2 = .03$. Simple main effect analyses revealed that the effect of Culture was significant in the high threat condition, $F(2, 288) = 4.42$, $p = .01$, $\eta_p^2 = .03$. As hypothesized, Iranian Canadians ($M = 4.95$, $SD = 0.93$) experienced psychological reactance to a higher degree[3], compared with European Canadians ($M = 4.52$, $SD = 0.98$), $p = .04$, and East Asian Canadians ($M = 4.45$, $SD = 0.76$), $p = .03$. Contrary to previous research, however, the latter two groups did not differ from each other, $p = .97$. In the low threat condition, the effect of Culture was not significant, $F(2, 288) = 1.03$, $p = .36$, $\eta_p^2 = .01$ (Iranian Canadians: $M = 4.32$, $SD = 0.86$; European Canadians: $M = 4.58$, $SD = 0.98$; East Asian Canadians: $M = 4.62$, $SD = 0.65$), consistent with our expectation. From another angle, while state reactance was higher in the high (vs.

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[2] The original subscale has 11 items but we eliminated two outdated items (e.g., "Homosexual relationships should not be depicted in television shows).

[3] All post-hoc analyses were conducted with Sidak correction; presented p-values are adjusted p-values.

low) threat condition for Iranian Canadians, $p < .01$, there was no difference in state reactance between the two conditions for European Canadians, $p = 69$, and East Asian Canadians, $p = .38$ (see Figure 1).
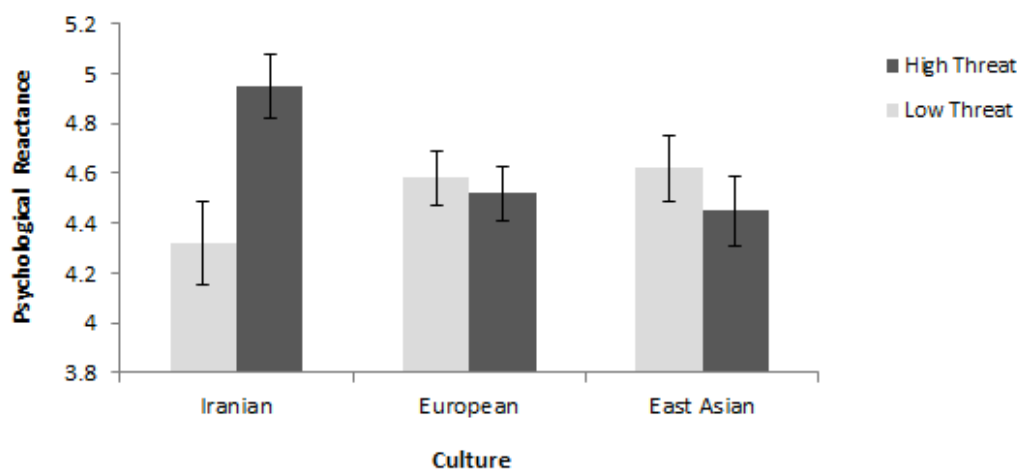

Figure 1: Psychological reactance as a function of culture and threat. Error bars indicate standard errors.

Trait Reactance

A one-way (Culture: Iranian vs. European vs. East Asian) between-subjects ANOVA revealed a significant effect of Culture on trait reactance,[4] $F(2, 289) = 3.69$, $p = .03$, $\eta_p^2 = .03$. Iranian Canadians ($M = 3.31$, $SD = 0.57$) exhibited higher levels of trait reactance than did European Canadians ($M = 3.11$, $SD = 0.56$), $p = .03$, and marginally higher levels of trait reactance than did East Asian Canadians ($M = 3.13$, $SD = 0.39$), $p = 10$, while the difference between the latter two groups was not significant, $p = .99$.

Attitude toward Censorship

A one-way (Culture: Iranian vs. European vs. East Asian) between-subjects ANOVA revealed a significant effect of Culture on attitude toward censorship, $F(2, 291) = 5.42$, $p = .01$, $\eta_p^2 = .04$. East Asian Canadians ($M = 2.50$, $SD = 0.53$) had less negative attitudes toward censorship, compared with Iranian Canadians ($M = 2.18$, $SD = 0.62$), $p = .01$, and European Canadians ($M = 2.29$, $SD = 0.70$), $p < .05$, while the latter two groups did not differ from each other, $p = .59$.

Self-Construal

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[4] Data from one Iranian Canadian participant and one East Asian Canadian participant were removed because they were 3 SDs below the mean of their respective cultural group.

Following previous research (e.g., Holland, Roeder, van Baaren, Brandt, & Hannover, 2004; Jonas et al., 2009), we first z-standardized the scores for independent and interdependent self-construals and took the difference between them with higher scores indicating relatively more independence (or less interdependence). A one-way (Culture: Iranian vs. European vs. East Asian) between-subjects ANOVA revealed a significant effect of Culture on self-construal, $F(2, 291) = 3.78$, $p = .02$, $\eta_p^2 = .03$.

European Canadians ($M = 0.22$, $SD = 1.28$) were more independent (or less interdependent) than East Asian Canadians ($M = -0.21$, $SD = 0.90$), $p = .04$, but not Iranian Canadians ($M = -0.13$, $SD = 1.46$), $p = .14$, while the latter two groups did not differ from each other, $p = .97$. Although the difference between European Canadians and Iranian Canadians fell short of statistical significance, the overall result pattern was consistent to Hofstede (2010).

Moreover, as results indicated that Iranian Canadians and East Asian Canadians were similarly independent (or interdependent), the enhanced state reactance among Iranian Canadians in response to social media censorship purportedly advocated by the Canadian government (i.e., the high threat condition) should not be attributed to self-construal. Indeed, when self-construal was controlled for, our main finding regarding state reactance remained virtually the same, $F(2, 287) = 4.49$, $p = .01$, $\eta_p^2 = .03$.

In addition, we tested whether self-construal was related to trait reactance. There indeed was a significant association between self-construal and trait reactance, $r(292) = .14$, $p = .02$, such that participants who were more independent (or less interdependent) reported higher levels of trait reactance.[5] As European Canadians (scored as 1) were more independent (or less interdependent) than East Asian Canadians (scored as 0), we used bootstrapping technique with 5,000 resamples to test the indirect effect of culture on trait reactance, through the effect of self-construal. This indirect effect was significant (point estimate = .06; 95% confidence interval of .02 to .12), conceptually replicating Jonas and colleagues (2009) using a trait measure of reactance.

Censorship Experience

As expected, there was a cultural difference in censorship experience. Iranian Canadians (54.67%) were more likely to report having direct or indirect censorship experience, compared with European Canadians (35.61%) and East Asian Canadians (22.99%), $c^2 (2, N = 294) = 17.52$, $p < .001$, Cramer's $V = .24$.

Mediational Role of Censorship Experience on the Relationship between Culture and State Reactance

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[5] Using this composite measure of independence/interdependence allows for a direct comparison between the present results and that of Jonas and colleagues (2009). If analyzed separately, trait reactance was positively correlated with independence, $r(292) = .12$, p = .049, but not with interdependence, $r(292) = -.05$, p = .36.

As Iranian Canadians (vs. European Canadians and East Asian Canadians) had more psychological reactance toward social media censorship in the high threat condition as well as past censorship experience, we conducted mediational analyses to examine whether past censorship experience could explain the relationship between culture and state reactance using a bootstrapping technique with 5,000 resamples. Culture (Iranian = 1 vs. European and East Asian = 0) was the independent variable; censorship experience (presence = 1 vs. absence = 0) was the mediator; state reactance was the dependent variable. Censorship experience was a significant predictor of psychological reactance, $t(156) = 3.72$, $p < .001$. Moreover, the indirect effect of culture on psychological reactance, mediated through the effect of censorship experience was significant (point estimate = .22; 95% confidence interval of .08 to .47).

Discussion

In the current research, we examined psychological reactance across cultures and found that Canadians of Iranian (vs. European and East Asian) cultural background experienced more psychological reactance when faced with a censorship threat that came from the government, but not when the same threat came from a student. In addition, Iranian Canadians and East Asian Canadians were similarly independent (or interdependent) and our main finding held when self-construal was statistically controlled for, suggesting that the enhanced reactance among Iranian Canadians in the high threat condition could not be explained by self-construal. Instead, through mediational analyses, we found that prior experience with censorship among our Iranian Canadian participants contributed to their heightened levels of psychological reactance. Paralleling our main finding, Iranian Canadians reported higher levels of trait reactance than did European Canadians and East Asian Canadians. This pattern of results suggests that the heightened level of psychological reactance among people of Iranian cultural background generalizes across domains and situations and does not seem to be related to self-construal.

Our basic findings regarding self-construal are generally consistent with the literature (e.g., Hofstede, 2010). European Canadians scored higher on independence (or lower on interdependence) than did East Asian Canadians, with Iranian Canadians scoring nominally closer to East Asian Canadians than European Canadians. Yet, there were no differences in state or trait reactance between European Canadians and East Asian Canadians. These findings, on the surface, seem to be at odds with some previous research which suggests a link between independence and increased psychological reactance (e.g., Jonas et al., 2009).

With regard to state reactance in response to the threat of social media censorship from the government, one possibility is that our experimental manipulation was not strong enough to induce reactance for both European Canadians and East Asian Canadians. Although the passage advocating social media censorship was purportedly obtained from a government website, participants from these two cultural groups might still perceive the message as merely a suggestion that is not likely to actually happen. In other words, the threat to freedom was still believed to be extremely low or practically non-existent. If this is the case, then the motivational state of psychological reactance was not likely to be induced in the first place and thus it should not be moderated by independent orientation. Supporting this possibility, there was no

difference in state reactance between the high threat (i.e., government) and the low threat (i.e., student) conditions for both European Canadians and East Asian Canadians. Assuming that the student passage did not induce any freedom threat in our participants (i.e., the low threat condition is practically a no threat condition), the current results imply that our Iranian (vs. European and East Asian) Canadian participants exhibited more psychological reactance in the high threat condition probably because they perceived higher levels of threat.

This raises an interesting issue in interpreting cultural differences in psychological reactance. When a between-condition difference in reactance is observed within each culture, it is reasonable to assume that the threat to freedom induced by the experimental (high threat) condition is perceived to be higher than that induced by the control condition (low or no threat) across cultures. When a between-culture difference in reactance is also observed in the experimental condition, but not the control condition, there exist at least two possibilities. The first possibility is that the level of *perceived threat* in the experimental condition is higher in one culture than the other. The second possibility is that the level of *psychological reactance* in response to the same perceived level of threat is higher in one culture than the other. These two possibilities certainly are not mutually exclusive. Extant research in culture and psychological reactance, however, does not seem to distinguish these two processes. In future research, it is worthwhile to include a no threat control condition and measure perceived level of threat to test the contribution of each of the two processes separately.

Trait reactance, on the other hand, was found to be associated with more independence (or less interdependence). In addition, an indirect effect of culture on trait reactance, through the effect of self-construal, was observed in the current study, consistent to previous research (Jonas et al., 2009). Unlike Jonas et al., however, there was no overall difference in trait reactance between our European Canadian and East Asian Canadian participants. This lack of direct effect, when combined with the significant indirect effect, suggests that there might be an opposing indirect effect involving an unmeasured variable operating in the current sample (Rucker, Preacher, Tormala, & Petty, 2011).

One limitation of the current study is that we tested participants who were primarily first-generation Iranian Canadians (mean percentage of life spent in Iran = 48%) instead of Iranian nationals. The likelihood of experiencing censorship in the past should be lower for our Iranian Canadian sample than for people who have lived in Iran for their entire lives. From this perspective, we might expect a stronger effect when we examine cross-national differences. On the other hand, some of our Iranian Canadian participants might have deliberately chosen to migrate to Canada because of lack of freedom in their home country. From this perspective, our Iranian sample might be biased toward a strong desire for freedom and thus accentuating the cultural effect. In future research, it would be desirable to collect data in Iran to see how psychological reactance might differ between Iranians living in Iran and Iranians living in North America.

Conclusion

The current study contributes to our understanding of psychological reactance by showing how it varies across an individualistic culture and two collectivistic cultures that are explained by their members' prior experiences in restriction to information access in the form of censorship. Overall, our results suggest some differences in psychological reactance between two Asian cultures and highlight the importance of going beyond the broad dimension of individualism versus collectivism when analyzing cultural variations in psychological reactance.

References

Bierbrauer, G., Meyer, H., & Wolfradt, U. (1994). Measurement of normative and evaluative aspects in individualistic and collectivistic orientations: The cultural orientation scale (COS). *Individualism and collectivism: Theory, method, and applications.* (pp. 189-199) Sage Publications, Inc, Thousand Oaks, CA.

Brehm, J. W. (1966). A theory of psychological reactance. New York, NY: Academic Press.

Brehm, S. S., & Brehm, J. W. (1981). *Psychological reactance: A theory of freedom and control*. New York, NY: Academic Press.

Bushman, B. J., & Stack, A. D. (1996). Forbidden fruit versus tainted fruit: Effects of warning labels on attraction to television violence. *Journal of Experimental Psychology: Applied*, *2*, 207-226.

Dillard, J. P., & Shen, L. (2005). On the nature of reactance and its role in persuasive health communication. *Communication Monographs*, *72*, 144-168. doi: 10.1080/03637750500111815

Hense, R., & Wright, C. (1992). The development of the attitudes toward censorship questionnaire. *Journal of Applied Social Psychology, 22*, 1666-1675.

Hofstede, G. H. (2010). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Holland, R. W., Roeder, U., van Baaren, R. B., Brandt, A. C., & Hannover, B. (2004). Don't stand so close to me: The effects of self-construal on interpersonal closeness. *Psychological Science, 15*, 237-242. doi: 10.1111/j.0956-7976.2004.00658.x

Hong, S., & Faedda, S. (1996). Refinement of the hong psychological reactance scale. *Educational and Psychological Measurement, 56*, 173-182.

Jonas, E., Graupmann, V., Kayser, D. N., Zanna, M., Traut-Mattausch, E., & Frey, D. (2009). Culture, self, and the emergence of reactance: Is there a "universal" freedom? *Journal of Experimental Social Psychology*, *45*, 1068-1080. doi: 10.1016/j.jesp.2009.06.005

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.

Mollanazar, H. (2011). Text Screening (Censorship) in Iran: A Historical Perspective. *Iranian Journal of Applied Language Studies*, *3*, 159-186.

Pennebaker, J. W., & Sanders, D. Y. (1976). American graffiti: Effects of authority and reactance arousal. *Personality and Social Psychology Bulletin, 2*, 264-267.

Quick, B. L., & Stephenson, M. T. (2007a). The Reactance Restoration Scale (RRS): A measure of direct and indirect restoration. *Communication Research Reports*, *24*, 131-138.

Quick, B. L., & Stephenson, M. T. (2007b). Further evidence that psychological reactance can be modeled as a combination of anger and negative cognitions. *Communication Research*, *34*, 255-276. doi:10.1177/0093650207300427

Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass, 5*, 359-371. doi: 10.1111/j.1751-9004.2011.00355.x

Savani, K., Markus, H. R., & Conner, A. L. (2008). Let your preference be your guide? Preferences and choices are more tightly linked for North Americans than for Indians. *Journal of personality and social psychology*, *95*, 861-876. doi: 10.1037/a0011618

Simmons, B. K. (1992). The effect of censorship on attitudes toward popular music. *Popular Music & Society*, *16*, 61-67.

Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, *20*, 580-591.

Triandis, H. C. (1995). *Individualism and Collectivism*. Boulder, CO: Westview Press.

Wicklund, R. A. (1974). *Freedom and reactance*. Potomac, MD: Lawrence Erlbaum.

Worchel, S., & Arnold, S. E. (1973). The effects of censorship and attractiveness of the censor on attitude change. *Journal of Experimental Social Psychology*, *9*, 365-377.

Appendix A

The Social Media Censorship Passage

The wide spread use of social media has led to tremendous changes in how people communicate and share information. The advantages of social media are endless but unfortunately social media has also become a medium for ill-intentioned individuals wanting to harm others. This misuse of social media is not an uncommon phenomenon in Canada as witnessed in the various protests across the nation (e.g. G20 riots, Vancouver Stanley Cup riots, Occupy movement and Quebec student protests), in which certain groups and individuals used social media to organize and encourage violence.

A solution that can decrease the negative impacts of social media is for the government to actively monitor and sometimes censor social media networks to prevent violence and hate speech, and to identify individuals who may pose a threat to public security. This strategy has proved to be effective in England, where in the 2011 riots the BlackBerry Messenger (BBM), an internet based instant messenger, was used to organize riots across England. The government eventually intervened by temporarily shutting down the BBM network to prevent the rioters from organizing mass gatherings and putting a stop to what came to be known as the "BlackBerry riots".

Censoring social media can be helpful in protecting our society from groups and individuals intent on anarchy who have caused millions of dollars in damages to cities across Canada. The Prime Minister of the UK, David Cameron, speaking during the "BlackBerry" riots said "Everyone watching these horrific actions will be struck by how they were organized via social media. Free flow of information can be used for good. But it can also be used for ill. And when people are using social media for violence we need to stop them."

Investigating the Evaluative Dimensions of a Large Set of Communicative Facial Expressions: A Comparison of Lab-Based and Crowd-Sourced Data Collection

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Abstract
Facial expressions form one of the most important non-verbal communication channels. Although humans are capable of producing a wide range of facial expressions, research in psychology has almost exclusively focused on the so-called basic, emotional expressions (anger, disgust, fear, happy, sad, and surprise). Research into the full range of communicative expressions, however, may be prohibitive due to the large number of stimuli required for testing. Here, we conducted both a lab-based and an online, crowd-sourcing study in which participants rated videos of communicative facial expressions according to 13 evaluative dimensions (arousal, audience, dominance, dynamics, empathy, familiarity, masculinity, naturalness, persuasiveness, politeness, predictability, sincerity, and valence). Twenty-seven different facial expressions displayed by 6 actors were selected from the KU Facial-Expression-Database (Shin et al., 2012) as stimuli. For the lab-based experiment, 20 participants rated all 162 (randomized) video stimuli. The crowd-sourced experiment was run on Amazon Mechanical-Turk with 423 participants, selected as to gather a total of 20 ratings per stimulus. Within-group reliability was high for both groups ($r\_Lab=.772$, $r\_Mturk=.727$ averaged across 13 dimensions), with valence, arousal, politeness, and dynamics being highly reliable measures ($r>.8$), whereas masculinity, predictability, and naturalness where comparatively less reliable ($.3<r<.6$). Importantly, across-group correlations showed a highly similar pattern. Our results first show that it is feasible to conduct large-scale rating experiments using crowd-sourcing stimuli. Additionally, the ratings paint a complex picture of how facial expressions are evaluated. Future studies will use dimensionality analyses to further investigate the full space of human communicative expressions.

Keywords: Crowdsourcing, Facial expression recognition

Introduction

Communication is a crucial element for building and sustaining a functional society. Communication in humans can be either verbal (that is, using the contents of spoken language), nonverbal (that is, using no-speech signals such as body language, prosody, and facial expressions), or both. Among the non-verbal signals, facial expressions are one of the most important ways of communication for humans.

The importance of facial expressions was already highlighted by Charles Darwin, when he suggested that facial expressions can be hard to suppress when certain muscles that take effort to activate are engaged. Darwin also suggested that facial expressions are used to communicate basic biological needs. During the 1960s, Paul Ekman conducted seminal research that investigated whether, indeed, facial expressions may be shared across cultures. Ekman found and described six, so-called "universal" or "basic" facial expressions that are equally well recognized across different cultural backgrounds (Ekman et al. 1969). These expressions are anger, disgust, fear, happy, sad, and surprise.

Although humans use a much wider range of emotional and non-emotional facial expressions, studies in psychology and related fields have almost exclusively focused on these six facial expressions. Only recently have researchers started to investigate this broader range of facial expressions and have been able to demonstrate reliable recognition of not only emotional, but also conversational facial expressions (Kaulard et al. 2012).

In addition, most studies on facial expressions have focused on analyzing static data, that is, pictures of the expressions. However, several studies comparing static and dynamic stimuli suggest that perception of facial expressions with dynamic stimuli not only yields different performance, but also changes the pattern of results (Cohen et al. 2003; Sandbach et al. 2012; Biele and Grabowska 2006; Kamachi et al. 2001; O'Toole et al. 2002). This difference in performance also has been shown to extend to conversational facial expressions when comparing static and dynamic processing (Cunningham and Wallraven 2009).

One of the reasons that has hampered progress in investigating the full range of facial expressions is the sheer amount of resources that are required for testing: existing databases (Kaulard et al., 2012), for example, contain over 50 expressions from 20 actors – the number of stimuli that need to be tested, therefore, goes into the thousands and represents a big challenge in traditional, lab-based experimental settings. One of the solutions for this problem has come with the advent of crowd-sourcing or online experiments, which promises to allow for testing of large number of stimuli in large populations (e.g., Morris et al. (2011)). In order to be able to use crowd-sourcing, however, it firsts need to be proven that it may produce comparable results to lab-based settings – especially given the more uncontrolled conditions that online experiments contain.

So far, a few studies have recently evaluated the accuracy of crowd-sourcing and found reliable results. Casler et al. (2013) compared a lab-based and a crowd-sourced setting for recognition of novel and familiar objects and found that results were indistinguishable between both groups (even though crowd-sourced participants were

somewhat more diverse). Saunders et al. (2013) compared lab experimentation and crowd-sourcing for the purpose of annotating video clips and found reliable results as well. Testing on a more cognitive level, Holden et al. (2013) investigated the test-retest reliability of a personality test and found similar values to lab-based settings. In the context of facial expressions, McDuff et al. (2012), for example, analyzed facial responses to online videos, being able to analyze over 3,000 face videos over 2 months, demonstrating reliable relationships between head movement and facial behavior among other things. Mahmoud et al. (2012) used a crowd-sourcing approach to recreate Darwin's emotion experiment, being able to re-produce previous results about ratings of different kinds of emotional pictures from Darwin's manuscript.

Given the encouraging results of these previous studies, here, we report a validation experiment in which we compare a lab-based and online crowd-sourced facial expression recognition experiment. The experiment uses 27 different facial expressions displayed by six actors, and participants were asked to rate each expression according to 13 evaluative dimensions. Importantly, the experiment uses dynamic stimuli of both emotional and conversational facial expressions to ensure ecological validity. Our goal was to test how well the lab-based results (which already approached the limits of what is doable in a standard testing environment) would match the crowd-sourced results.

Methods

To keep the experiments at a reasonable duration, we selected 27 facial expressions from the KU Facial Expression Database (Shin et al., 2012), spanning a wide variety of communicative and emotional signals. Each expression was available as a video sequence and was performed by 6 different, native-Korean actors (3 male, 3 female). The expressions were elicited by a method acting protocol and validated in several experiments (Shin et al., 2012) – the individual expressions were: showing a considered agreement, "aha" moment (when one suddenly understands something), anger, arrogant (looking down on somebody), being bothered by something, showing contempt towards someone, showing that one is not interested in something ("I don't care!"), disagreeing with something, being disgusted, being embarrassed, reacting in an evasive manner, feeling fearful (terrified of something), a genuine happy laugh, a satiated smile (as if after a good meal), imagining something negative, being impressed by something, feeling insecure, feeling compassion towards someone, feeling pain, being irritated ("rolling your eyes"), remembering something neutral, being sad, showing various kinds of smile (a flirtatious smile, a reluctant smile, a sardonic smile, and a sad/nostalgic smile), being tired. Figure 1 shows peak-frame examples of three expressions.
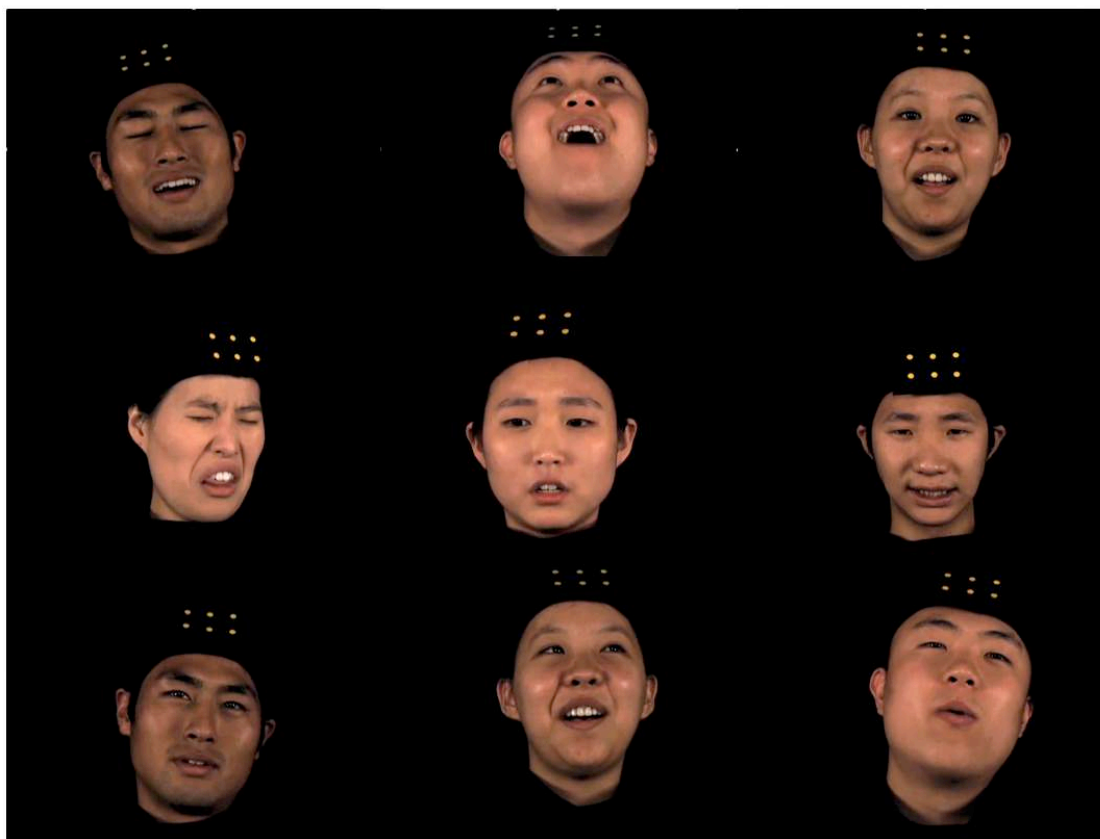
Figure 1: Peak-frames for three expressions from the KU-Facial-Expression Database used in this experiment. First row: "aha" moment, second row: contempt; third row: being impressed by something.

The Amazon Mechanical-Turk website was used to recruit a total of 423 participants, selected as to gather a total of 20 ratings per stimulus. Each participant was allowed to rate a maximum of 10 video sequences. Each video sequence was reimbursed at the rate of .10US$. The lab-based experiment was conducted with 20 participants from Korea University who rated all 162 (randomized) stimuli and participants were reimbursed at around 8US$ per hour.

In each trial, participants had to rate each expression according to 13 different dimensions: arousal = intensity of the expression, audience = needs a conversational partner, dominance = dominates the observer, dynamics = contains a lot of motion, empathy = makes the observer feel empathic, familiarity = is a typical expression, masculinity, naturalness = is a posed or natural expression, persuasiveness = can persuade the observer, politeness, predictability = results from a predictable situation, sincerity, and valence = positive or negative. These rating dimensions were selected based on prior experiments about ratings of emotional concepts (Fontaine et al., 2007; Castillo et al., 2014). Ratings were done on a 7-point Likert-type scale.

The instructions for the crowd-sourcing experiment were explained on top of the webpage (see Figure 2) for each trial. Each participant received a random trial selected from a list. The webpage contained the instructions, the video, and the questionnaire with the rating dimensions. The lab-based experiment proceeded in a

similar fashion, except that each participant rated the full list of videos – accordingly, the full experiment here took around 2-3 hours.

Figure 2: Screenshot of the crowd-sourcing webpage.

Results

Data analysis was performed using standard statistical functions in MATLAB (R2014a, The MathWorks, Natick, USA).

First, we checked the correlations of evaluative dimensions within each setting. For this, ratings were averaged across actors, expressions, and participants and then correlated across dimensions. For the lab-based results (see Figure 3, left), we found that valence highly correlated with politeness, arousal with dominance and dynamics, persuasiveness with empathy and sincerity, and familiarity correlated with predictability. Naturalness correlated negatively with most other dimensions, since the question awarded posed expressions with high values. For the crowd-sourced results (see Figure 3, right), we similarly found that valence highly correlated with politeness, and arousal with dominance and dynamics. The similar patterns of inter-correlations already point towards consistent rating performance between the two settings.

To assess within-setting reliability we performed split-half correlations, correlating the responses across participants, but separately for each rating dimension. The split was repeated 1000 times, and we averaged the results. For the lab-based setting, reliability was very high overall with a median split-half correlation of $r=.771$ (see Figure 4, left). We found very high values for valence ($r=.973$), dynamics ($r=.913$), arousal ($r=.900$), politeness ($r=.899$), and audience ($r=.855$). Predictability ($r=.387$) and masculinity ($r=.544$) in contrast showed relatively low reliability. In the crowd-sourced setting, average correlation was also high ($r=.727$, Figure 4, right). Similarly, results for valence ($r=.966$), arousal ($r=.859$), politeness ($r=.849$), and dynamics ($r=.797$) showed these as highly reliable dimensions. Again, reliability was comparatively low for ratings of masculinity ($r=.303$) and predictability ($r=.451$).
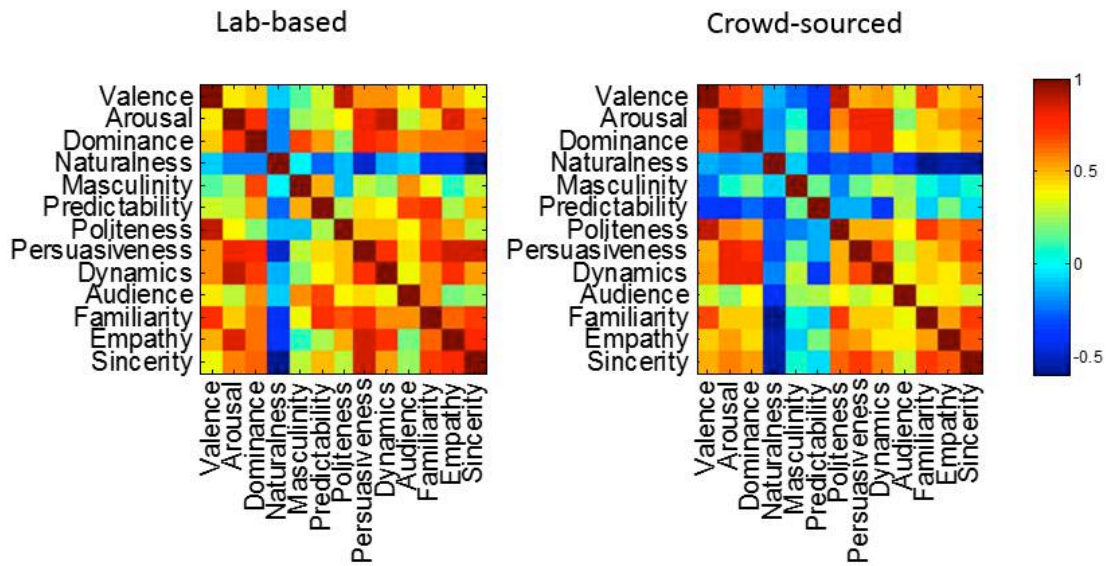
Figure 3: Correlations of evaluative dimensions within each setting (left: lab-based, right: crowd-sourced). Red indicates high and blue low correlation.

A Wilcoxon signed rank test for the two sets of correlation values found that lab-based correlations were significantly higher than those of the crowd-sourced setting (Z=2.201, p<.05). The overall difference in terms of effect size, however, was small (R=.169) indicating that although there was a significant difference (likely due to the large increase in between-participant noise because of the large number of participants), its impact was minor.
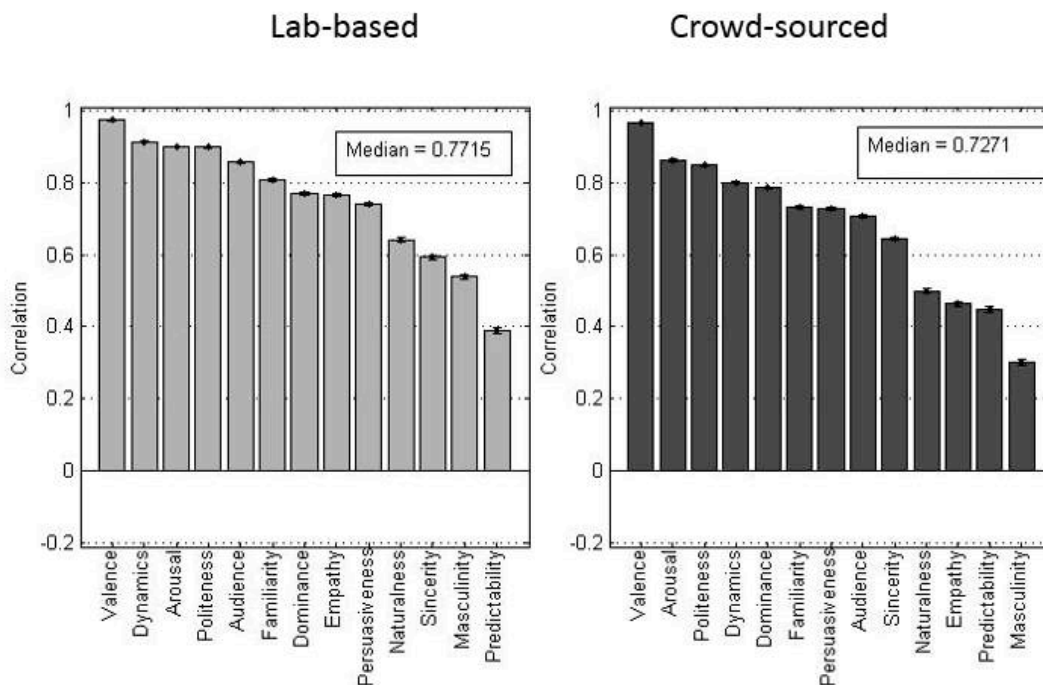
Figure 4: Reliability of ratings (as measured by split-half correlations) for each dimension. Left: lab-based setting, right: crowd-source setting.
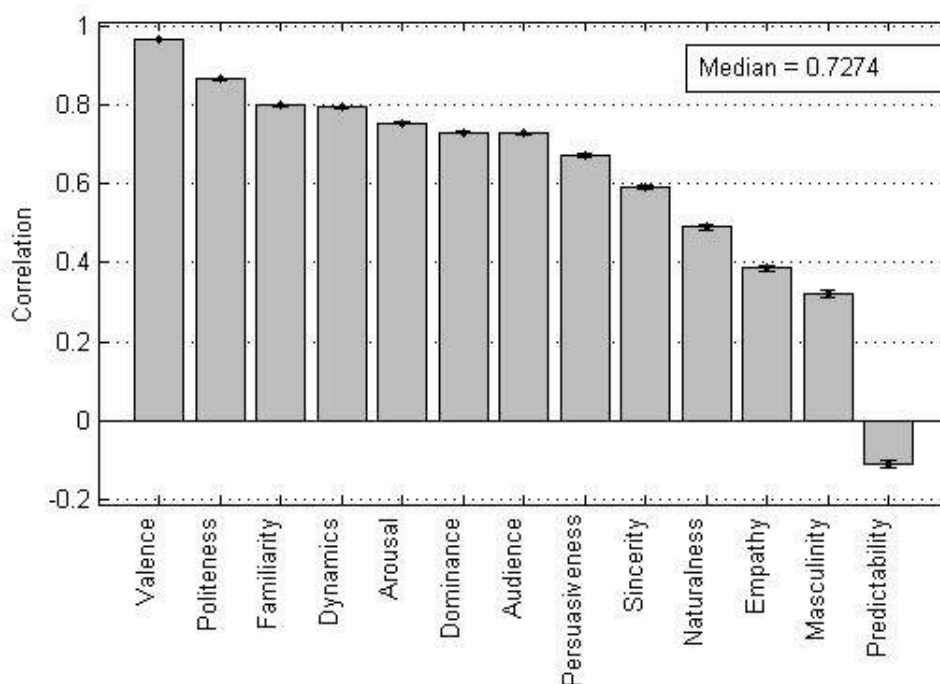
Figure 5: Across-setting correlations for each dimension.

Importantly, across-setting correlations for each dimension showed a highly similar rating pattern with a median correlation of r=.727 (see Figure 5). As may be expected, valence showed very high rating consistency (r=.966), but other dimensions such as politeness, familiarity, dynamics, and arousal also scored high across-setting correlations (r>.75). In accordance with their low reliability, predictability (r=-.106) and masculinity (r=.321) had low across-setting correlations. Importantly, for the aims of the present study, however, the overall correlations were high, hence confirming highly similar rating patterns in both the lab-based and the crowd-sourced setting.

Conclusion

Our results show that it is feasible to conduct large-scale rating experiments using crowd-sourcing stimuli. We found that valence and arousal as well as several other rating dimensions produced highly consistent ratings patterns in both lab-based and crowd-sourced settings. Masculinity and predictability in contrast were less reliable within each setting and accordingly also across settings.

Taken together, the ratings also paint a complex picture of how facial expressions are evaluated and which dimensions may be easily accessible for representing and processing the complex space of human communication. Future studies will use this data to conduct dimensionality analyses to investigate the space of human communicative expressions in more detail.

Importantly, for our goal, the present findings confirm previous studies about the potential and reliability of crowd-sourcing even with the complex video stimuli and ratings used here (e.g., Saunders et al. (2013)). In terms of resources used, the total time spent on running the lab-based experiment was 80 hours for 20 participants,

whereas the crowd-sourcing experiment finished in 8 hours (using 423 participants), indicating a clear advantage for crowd-sourced solution.

It should be noted that although crowd-sourcing is effective and reliable when tested with general questions, differences between trained experts and crowd-sourced participants do exist: Nowak and Rüger (2010) compared image annotations of experts and crowd-sourced participants and showed that experts produced more consistent results, although the two groups did show good agreement. In our case, however, the rating task was supposed to tap into intuitive evaluative dimensions, hence needing no additional training or expertise.

Overall, we found that crowd-sourcing is a good alternative to lab-based experiments, enabling researchers to investigate cognitive dimensions of large numbers of visual stimuli easily and reliably.

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References

Biele, C., & Grabowska, A. (2006). Sex differences in perception of emotion intensity in dynamic and static facial expressions. Experimental Brain Research, 171(1), 1-6.

Cameron, D. (2001). Working with spoken discourse. Sage.

Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. Computers in Human Behavior, 29(6), 2156-2160.

Castillo, S., Wallraven, C., & Cunningham, D. W. (2014). The semantic space for facial communication. Computer Animation and Virtual Worlds, 25(3-4), 223-231.

Coates, J. (2007). Talk in a play frame: More on laughter and intimacy. Journal of Pragmatics, 39(1), 29-49.

Cohen, I., Sebe, N., Garg, A., Chen, L. S., & Huang, T. S. (2003). Facial expression recognition from video sequences: temporal and static modeling. Computer Vision and image understanding, 91(1), 160-187.

Cunningham, D. W. and C. Wallraven (2009). Dynamic information for the recognition of conversational expressions. Journal of Vision, 9(13), 7.

Drew P., & Heritage J. (1992). Analysing talk at work: An introduction. In P. Drew, & J. Heritage (Eds.), *Talk at work* (pp. 3-65). Cambridge: Cambridge University Press.

Ekman, P., Sorenson, E. R., & Friesen, W. V. (1969). Pan-cultural elements in facial displays of emotion. Science, 164(3875): 86-88.

Fontaine, J. R., Scherer, K. R., Roesch, E. B., & Ellsworth, P. C. (2007). The world of emotions is not two-dimensional. Psychological science, 18(12), 1050-1057.

Holden, C. J., Dennie, T., & Hicks, A. D. (2013). Assessing the reliability of the M5-120 on Amazon's Mechanical Turk. Computers in Human Behavior, 29(4), 1749-1754.

Hsueh, P. Y., Melville, P., & Sindhwani, V. (2009). Data quality from crowdsourcing: a study of annotation selection criteria. In Proceedings of the NAACL HLT 2009 workshop on active learning for natural language processing (pp. 27-35). Association for Computational Linguistics.

Kamachi, M., Bruce, V., Mukaida, S., Gyoba, J., Yoshikawa, S., & Akamatsu, S. (2001). Dynamic properties influence the perception of facial expressions. Perception, 30, 875-887.

Kaulard, K., Cunningham, D. W., Bülthoff, H. H., & Wallraven, C. (2012). The MPI Facial Expression Database—A validated database of emotional and conversational facial expressions. PloS one, 7(3), e32321.

Lee, H., Shin, A., Kim, B., & Wallraven, C. (2012). The KU facial expression database: a validated database of emotional and conversational expressions. In Proc. of Asian Pacific Conference on Vision, Incheon, Korea.

Mahmoud, M. M., Baltrusaitis, T., & Robinson, P. (2012). Crowdsourcing in emotion studies across time and culture. In Proceedings of the ACM multimedia 2012 workshop on Crowdsourcing for multimedia (pp. 15-16). ACM.

McDuff, D., Kaliouby, R. E., & Picard, R. W. (2012). Crowdsourcing facial responses to online videos. Affective Computing, IEEE Transactions on, 3(4), 456-468.

Morris, R. (2011). Crowdsourcing workshop: the emergence of affective crowdsourcing. In Proceedings of the 2011 annual conference extended abstracts on Human factors in computing systems. ACM.

Nowak, S., & Rüger, S. (2010). How reliable are annotations via crowdsourcing: a study about inter-annotator agreement for multi-label image annotation. In Proceedings of the international conference on Multimedia information retrieval (pp. 557-566). ACM.

O'Toole, A. J., Roark, D. A., & Abdi, H. (2002). Recognizing moving faces: A psychological and neural synthesis. Trends in cognitive sciences, 6(6), 261-266.

Sandbach, G., Zafeiriou, S., Pantic, M., & Yin, L. (2012). Static and dynamic 3D facial expression recognition: A comprehensive survey. Image and Vision Computing, 30(10), 683-697.

Saunders, D. R., Bex, P. J., & Woods, R. L. (2013). Crowdsourcing a normative natural language dataset: a comparison of Amazon Mechanical Turk and in-lab data collection. Journal of medical Internet research, 15(5).

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The Relationship Between Over-Adaptation Towards Peers, Psychological Stress, and School Adjustment in Japanese Junior High School Students

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Abstract
The purpose of this study was to investigate the relationship between over-adaptation towards peers, psychological stress, and subjective adjustment to school in Japanese junior high school students. "Over-adaptation" was defined as the condition in which a person engaged in external over-adaptive behavior (self-inhibition and other-oriented behavior) towards others. A total of 949 Japanese junior high school students (453 boys and 495 girls) completed 3 questionnaires: an over-adaptation (towards peers) scale, a psychological stress scale, and subjective adjustment to school scale. The over-adaptation scale consisted of 16 questions which were subdivided into the 2 subscales; "self-inhibition" and "peer-oriented behavior", and 16 questions of psychological stress scale were subdivided into the following 4 subscales; "angry affect", "depression", "physical response", and "helplessness". The results indicated that (1) a high score on self-inhibition towards peers significantly was related to a high score on all stress responses and a low score on subjective adjustment to school, and (2) a high score on peer-oriented behavior significantly was related to a high score on all stress responses, but unrelated to subjective adjustment to school.

Keywords: over-adaptation, peers, stress responses, school adjustment, adolescence.

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Introduction

The purpose of this study is to investigate the relationship between over-adaptation towards peers, psychological stress, and subjective adjustment to school in Japanese junior high school students.

Adolescence is a period of transitions: biological, psychological, and social. During adolescence, individuals experiences multiple and remarkable changes. These changes not only influence individuals' development and adjustment positively, but also may provide negative impacts on their development and mental health. So, adolescence widely has been believed to be a turbulent developmental stage between the relative calm of childhood and adulthood. In fact, Costello, Copeland & Angold (2011) found that prevalence of some anxiety disorders, depression, and substance use disorders increases during adolescence.

In the field of clinical psychology in Japan, there are some adolescent clients who are in a similar condition. This condition is "over-adaptation". "Over-adaptation" was defined as the condition in which a person engaged in external over-adaptive behavior (self-inhibitive and other-oriented behavior) towards others.

Over-adaptation was regarded as the personality of an individual and Ishizu & Anbo (2007, 2008) found that high degree of over-adaptive tendency significantly related to depressive symptoms and stress responses positively. However, in these previous studies, it wasn't considered that towards whom an individual took over-adaptive behavior. It seems that the impacts of over-adaptation towards peers, teachers, or parents on an individual's mental health and adjustment, are different. Especially, considering the importance of peers to the development and adjustment of adolescents, over-adaptation towards peers may have a more critical role in adolescents' mental health or adjustment.

Method

Participants
949(453 boys and 495 girls) Japanese junior high school students participated in this study. The mean age of subjects was 13.53 years (SD = .93).

Procedure
Subjects completed the following 3 questionnaires during class time.
Over-adaptation (towards peers) scale. This Scale was consisted of 16-items measuring the extent to which an individual takes self-inhibitive and other- oriented behavior. These items were subdivided into the 2 subscales; "self-inhibition" (α = .85) and "other-oriented behavior" (α = .75).

Pychological stress scale (Okuno & Kobayashi, 2007).
This scale was consisted of 18-items measuring an individual's multiple stress responses. These items were subdivided into the following 4 subscales; "angry affect" (α = .89), "depression" (α = .92), "physical response" (α = .88), and "helplessness" (α = .82).

Subject adjustment to school scale (Okubo, 2005).
This scale was consisted of 11-items measuring the extent to which an individual feels comfort when they were live in school. Cronbach's alpha (α) was .94.

Results

Descriptive statistics of all variables and correlations are presented in Table 1. This table suggests that (1) "self-inhibition", "peer-oriented behavior", "angry affect", "depression", and "physical response" scores of girls were significantly higher than those of boys, (2) at the total level, "self-inhibition" was positively related to all stress responses and negatively related to "subjective adjustment to school", and "peer-oriented behavior" was positively related to all stress responses, but unrelated to "subjective adjustment to school". In addition, it was also suggested that (3) among girls, "self-inhibition" and "peer-oriented behavior" were positively related to all stress responses and negatively related to school adjustment. On the other hand, among boys "peer-oriented behavior" was positively related to "angry affect" and "depression" only.

Next, we examined the relationship between over-adaptation towards peers, stress responses, and school adjustment. We hypothesized that over-adaptation towards peers predicted stress responses and school adjustment and examined this model by SEM (Structural Equation Modeling). Results were presented in figure 1 and this model fit the data adequately, $\chi2$ (4) = 7.150, n.s., GFI = .998, AGFI = .970, CFI = .999, RMSEA = .029. Results indicated that (1) "self-inhibition" predicted all stress responses positively and school adjustment negatively in both gender, and (2) "peer-oriented behavior" predicted "angry affect" and "depression" positively in girls, school adjustment positively in boys.

Table 1
Descriptive statistics of all variables and correlations between over-adaptation towards peers, stress responses, and subjective adjustment to school.

	Mean (SD)				Correlation						
	Total	Boys	Girls	*t* value	1	2	3	4	5	6	7
1. Self-inhibition	19.22 (6.30)	18.24 (5.79)	20.09 (6.59)	4.56***		.479*** .652***	.257*** .213***	.305*** .277***	.199*** .122**	.279*** .199***	-.298*** -.253***
2. Peer-oriented behavior	19.89 (4.77)	18.99 (4.46)	20.70 (4.90)	5.60***	.591***		.097* .250***	.128** .289***	.046 n.s. .153**	.077 n.s. .164***	.074 n.s. -.142**
3. Angry affect	13.71 (5.97)	13.14 (6.07)	14.22 (5.81)	2.80**	.245***	.194***		.551*** .614***	.723*** .639***	.578*** .554***	-.434*** -.396***
4. Depression	6.49 (3.88)	5.68 (3.44)	7.24 (4.12)	6.32***	.306***	.249***	.583***		.499*** .494***	.390*** .418***	-.366*** -.375***
5. Physical response	9.93 (4.77)	9.61 (4.51)	10.24 (4.97)	2.04*	.158***	.115***	.674***	.499***		.549*** .509***	-.390*** -.294***
6. Helplessness	11.45 (4.46)	11.19 (4.46)	11.69 (4.46)	1.74 n.s.	.240***	.133***	.568***	.406***	.527***		-.338*** -.285***
7. Subjective adjustment to school	38.77 (10.42)	38.31 (10.18)	39.18 (10.64)	1.28 n.s.	-.260***	-.036 n.s.	-.405***	-.354***	-.334***	-.306***	

Notes. Correlations (total) are shown in lower left, and those (boys/girls) are in upper right; those of boys is above (blue) and girls is below (red).
  * : p＜.05, ** : p＜.01, *** : p＜.001.
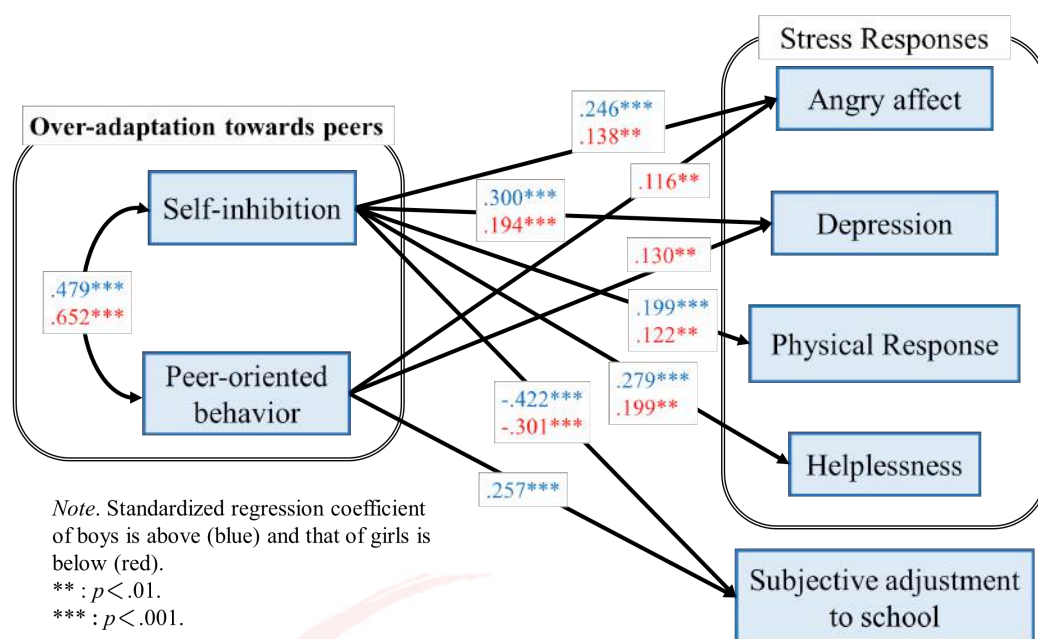
Figure 1   Path model of the relationship between over-adaptation towards peers, stress response, and school adjustment.

Conclusion

This study investigated the relationship between over-adaptation towards peers, psychological stress, and subjective adjustment to school in Japanese junior high school students.

First, the results of this study indicated that 2 subscales of over-adaptation towards peers, i.e., "self-inhibition" and "peer-oriented behavior" scores of girls were significantly higher than those of boys. It suggested that girls tend to be more self-inhibitive towards peers, more consider peers' feelings, or do things to get praise from them. In fact, Japanese early adolescents tend to behave in conformity to peers, and especially, girls tend to have more cooperative and intimate friendship (chum-ship) than boys (Ochiai & Satoh, 1996).

Secondarily, without considering gender difference, results indicated that (1) a high score on self-inhibition towards peers was significantly related to a high score on all stress responses and a low score on school adjustment, and (2) a high score on peer-oriented behavior was significantly related to a high score on all stress responses, but unrelated to school adjustment. But considering gender difference and examining the hypothesized model, results indicated that (1) in both gender, self-inhibition predicted all stress responses positively and school adjustment negatively, and (2) "peer-oriented behavior" predicted "angry affect" and "depression" positively in girls, school adjustment positively in boys. These results suggested that self-inhibitive behavior towards peers increases psychological stress and decrease school adjustment, but peer-oriented behavior increases angry/depression in girls and increase school adjustment in boys. The function of peer-oriented behavior appear to be different in boys/girls.

References

Costello, E. J., Copeland, W., & Angold, A. (2011). Trends in psychopathology across the adolescent years: what changes when children become adolescents, and when adolescents become adults? *Journal of Child Psychology and Psychiatry*, *52*, 1015-1025.

Ishizu, K., & Anbo, H. (2007). Over-adapted tendency and childhood depression: A study of Japanese junior high school students. Annual Reports of the Graduate School of Education, Tohoku University, 55, 271-288.

Ishizu, K., & Anbo, H. (2008). Tendency Toward Over-Adaptation: School Adjustment and Stress Response. *Japanese Journal of Educational Psychology*, 56, 23-31.

Ochiai, Y., & Satoh, Y. (1996). The developmental change of friendship in adolescence. *Japanese Journal of Educational Psychology*, 44, 55-65.

Okubo, T. (2005). Factors contributing to subjective adjustment to school in adolescents. *Japanese Journal of Educational Psychology*, 53, 307-319.

Okuno, S., & Kobayashi, M. (2007). Independent/Interdependent self-construal and psychological stress: Junior high school students. *Japanese Journal of Educational Psychology*, 55, 550-559.

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An Interpretive Phenomenological Analysis of Career Choice in Science:
Evidence from Malaysian Undergraduates

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Background of Study

"An unfulfilled vocation drains the color from a man's entire existence"

(De Balzac, 2008)

Melodramatic but true nonetheless, French novelist Balzac had aptly portrayed the ramifications of a frustrating career path on an individual's quality of life. Yet, the attainment of a successful and satisfying career reclines very much in an individual's own definition and perception. As a general belief, there are two main elements to career success. The first, extrinsic success, is objective and usually an observable element like salary while the second, intrinsic success stems from subjective reaction to one's career (Ng, Eby, Sorensen & Feldman, 2005). The apparent desirability of salary, prestige and status have posited extrinsic success as the focus of employers and employees alike, thus contributing to the misconceived equation of career success and satisfaction solely with high extrinsic factors. This belief was refuted by Ng et al. (2005) in a report of low sample size weighted correlations of salary and promotion with career satisfaction respectively. Owing to this, vocational research have begun to shift attention to the perceptions and feelings of one's career, which is essentially the core of subjective career success and how these may consequently impinge upon career decision-making.

As important as it may be, intrinsic career success which hinges on the subjective experience and emotions of an individual are predisposed to the milieu of ambiguity and obscurity in its pursuit. As increasing emphasis is placed on attaining both extrinsic and intrinsic success and satisfaction, the formation of one's career choice in the recent times has also taken on an equally complicated path. While a career encompasses the unfolding sequence of a person's work experiences over time and across multiple jobs, organisations and occupations, crucial formation of a career identity begins long before the commencement of the first job (Arthur, Hall & Lawrence, 1989). It transpires in adolescence as they begin to discover a variety of new subjects, knowledge and interests. Career identity gradually crystallise as individuals explore and attempt different occupational interests, tasks and planning in consideration of a future career (Super, 1990 as cited in Rogers & Creed, 2011). During this process which extends till adulthood, individuals alight upon a host of factors that influence their decision-making, hence shaping their ultimate career choice.

Social Cognitive Career Theory

A core theory of reference in career development, the Social Cognitive Career Theory maintains that decisions preceding academic and career-relevant choices and subsequent performance and persistence in educational and occupational fields are framed by an assembly of person and environmental variables (Lent, Brown & Hackett, 1994). According to the theory, four cognitive-person variables: self-efficacy beliefs, outcome expectations, interests and goals work individually and in concert with contextual barriers and support to facilitate or hinder progress towards career goals (Lent, et. al, 1994). More precisely, self-efficacy acts in tandem with outcome expectations to mold one's area or subject of interest which eventually inspires academic and career goals. This in turn determines the implementation of specific actions that lead to performance and goal attainment. Throughout this progression,

background influences including emotional, financial support, cultural and gender role socialisation provide the setting for an individual's learning experiences. On the other hand, more direct influences such as network contacts, structural barriers and opportunities affect the career plans at critical choice junctures.

Self-efficacy, which is one's judgment about his or her own capabilities to organise and execute courses of action has been associated with increased levels of career planning and career exploration in high school students (Rogers & Creed, 2011) while *outcome expectations* that incorporate one's personal beliefs about physical, social and self-evaluative outcomes of undertaking a particular path has also been linked to academic goals and interest of certain academic majors such as engineering and biological sciences (Byars-Winston, Estrada, Howard, Davis & Zalapa, 2010).

The Salience of Work

An individual's attainment of intrinsic success pivots firmly on the importance and significance of an occupation to him or herself, which may vary in different characters. The background and contextual elements that profiles one's salience of work is important as it further determines the nature of motivation which drives his or her tenacity for achievement in the chosen field. Social-cultural expectations including gender role socialisation and available role models have been found to strongly influence an individual's perspective not only on work, but in other aspects of life and these in turn determine how they may prioritise one choice over another.

Conventional female roles for example, uphold the expectation of females in supporting family and household matters primarily. As illustrated in Stoner, Hartman and Arora (1991), managerial women who maintain this traditional view of high family role salience experienced highest levels of family-work conflict when putting in long hours at work. Regardless of whether it is work passion, work-life balance, attractive income or social-cultural expectations, decisions will be made with precedence to the aspect which one holds most salient.

Context of Study: Science as a Career Choice in Malaysia

Based on the UN Millennium report (2010), the scientific, technological, engineering and mathematics (STEM) workforce are among the most critical resources for economic transformation. As countries move towards knowledge-based societies, government interventions are geared towards influencing program choice in order to meet national needs (Kember, Ho & Hong 2010). In the developed nations and rising economies such as United States and Asian countries, the higher education institutions are seen to play a vital role in supplying the required human capital through producing competent graduates who can be a catalyst to drive new sources of domestic growth and attract foreign direct investment.

While there has been a strong emphasis in promoting the undertaking of science and technology (S&T) as a career path for university students, there has been a notable trend of decline in the number of graduates and workforce in this field. In Malaysia, the country's aspiration of attaining a high-income economy that is innovation-led, sustainable and provides good quality of life for its citizens has brought forth a pressing concern owing to reports of decreasing enrolment of S&T undergraduates,

low percentage of graduates and reduced workers pursuing an S&T career (Lai & Yap, 2004; Ibrahim, 2012). Vocational research across the globe has attributed this worrying trend to perceived difficulty and stress in academic courses, social barriers, and poor self-efficacy beliefs among students (Inda, Rodríguez, & Peña, 2013; Oon & Subramaniam, 2013). In view of these findings, this research aims to delve into the emotions, perceptions and career choice intentions of Malaysian S&T undergraduates in anticipation of reviving the nation's economic transformation. Specifically, this study aims to understand how individuals make sense of their personal experiences in science as an educational pursuit and potential career choice.

Method

Participants

A purposive sample of 23 science undergraduates from public and private universities in Malaysia were interviewed for the study. The sample consisted of 12 females and 11 males. Twelve participants were Chinese, eight were Malays and three were Indians. Most participants were in the final year of their undergraduate course while others had recently completed their degree. A profile of the participants is summarised in the table below.

Table 1: Profile of Interview Participants

Participant	Gender	Ethnicity	Public/Private university	Course of study	Years of study	Career choice
P1	Female	Chinese	Private	Biotechnology	4	Job in Science or teacher
P2	Female	Chinese	Private	Biotechnology	4	Job in Science or Business
P3	Female	Chinese	Public	Product Development Technology	3	Marketing role in Science company
P4	Female	Malay	Public	Actuarial and financial mathematics	3	Finance/Risk management field or Postgraduate studies to Academia
P5	Female	Chinese	Private	Biotechnology	4	Postgraduate studies to Academia or job in Genetics field
P6	Male	Chinese	Private	Biotechnology	4	Postgraduate studies to Academia or job in Wastewater field
P7	Female	Chinese	Private	Biotechnology	4	Postgraduate studies to Academia

P8	Female	Chinese	Private	Biotechnology	4	Job in Banking or business
P9	Male	Chinese	Private	Biotechnology	4	Marketing role in science company
P10	Male	Malay	Private	Electrical Engineering	4	Postgraduate studies to Academia or Job in Machine maintenance
P11	Female	Malay	Private	Electrical and Computer Systems	4	Postgraduate studies to Academia
P12	Female	Indian	Public	Microbiology	3	Postgraduate studies to Academia
P13	Male	Chinese	Public	Microbiology	3	Postgraduate studies to Academia or R&D in Corporate
P14	Male	Chinese	Public	Microbiology	3	Research and Development in Corporate
P15	Male	Malay	Public	Pure Chemistry	3	Postgraduate studies to Academia
P16	Male	Chinese	Public	Biochemistry	3	Postgraduate studies to Academia
P17	Male	Malay	Public	Physics	3	Postgraduate studies to Industry
P18	Female	Chinese	Public	Chemical engineering	3	Professional Engineer
P19	Male	Indian	Public	Biochemistry	3	Research and Development in Corporate
P20	Male	Malay	Public	Material Science	3	Postgraduate studies to Academia or R&D
P21	Female	Malay	Public	Material Science	3	Project manager/Planning or Postgraduate studies to Academia
P22	Male	Malay	Public	Pure physics	3	Postgraduate studies to Academia
P23	Female	Indian	Public	Pure Chemistry	3	Postgraduate studies to Academia

Procedure

The phenomenological research approach was employed for this study. The purpose of phenomenology is to describe and understand the essence of lived experiences of individuals who have experienced a particular phenomenon (Lichtman, 2006). The current study examines the feelings and perceptions of science undergraduates about their subject and career intentions ensuing their social, cultural, familial and individual experience and emotions throughout their childhood and education. Interview sessions were conducted for approximately 40 minutes to an hour comprising of questions regarding initial contact with science, source of interests, perceived barriers and supports, role models and academic and career intentions. While specific interview questions were prepared, the actual session followed a conversational style, allowing the researcher to adapt the sequence or phrasing of the questions for a natural flow.

Results

From the preliminary data analysis, four major themes were identified: 'Science as fantasy and discovery', 'Science as a default choice', 'Science as a reality or illusion', and 'Science as a transit, crossroad or destination'. Each theme shall be discussed with accompanying excerpts taken from the transcribed interviews.

Theme 1: Science as Fantasy and Discovery

During the course of the interview, all participants mentioned feelings of attraction and fascination during their initial contact with science during childhood. Their curiosity in the subject was triggered by a few notable medium of influences including family, school and media. At home, interaction with older siblings and relatives provided opportunity to observe and learn about scientific applications and technology. In school, enrichment programs such as science fairs, competitions, workshops and laboratory experiments introduced participants to the universality of science in naturally occurring phenomenon. Specifically, participants sustained their interest via engaging media tools including educational television programmes, sci-fi movies, scientific articles and magazines.

> *During my childhood, actually I play with my brother, he used to show me, we play with the water hose, used to, at that time I don't know he blow or what. The water coming down from the basin, like from higher to lower, like keep going flow. So I keep thinking, how does he doing that? So that is the first, something that triggered. I'm so impressed (Participant 20, Male, Material Science undergraduate)*

> *Actually begin with one competition I took part when I was 12 years old, it's a national program, they arrange a junior science competition, each school comes out with few teams and each team will carry out some experiments to show some kind of invention in science. It is significant one because it allows us to think in many different ways, there is no definite concept, you always can be skeptical. That is why science can be always be hypothesised.*

> *I don't like to follow something blindly. Actually that competition makes me aware of this. (Participant 12, Female, Microbiology undergraduate)*

From primary to lower secondary, science classes and activities were general in nature, thus it was not till upper secondary did participants form a stronger passion for science that was then segregated into three subjects; Biology, Chemistry and Physics. The undertaking of (all or either of) these subjects enabled participants to garner more knowledge in their chosen field of science. Mainly, participants noted feelings of inspiration and motivation to consider a career in a related science field due to a positive experience with the subject and teacher.

> *Just a small part of my textbook and then I feel very interested why just a few of cells that can develop into a plant or maybe an organism. So this developed my interest and then I plan to continue my future study in Biotechnology. (Participant 2, Female, Biotech undergraduate)*
> *The main interest came when I was in form 4. Because my form 4 lecturer for biology. She is a fantastic lady. She is the one who instill the love in biology. I scored really well. Thanks to her. She is the main reason that I choose biochemistry. We study about the chemical reactions in our body. (Participant 19, Male, Biochemistry undergraduate)*

Theme 2: Science as default choice

At the point of transition between lower secondary to upper secondary, participants had to make a choice between science or art stream. The participants mainly chose science for two reasons; first being the social perception of science as the "superior" option which fit for only good and smart students; second being the advantage of science that allows broader career options in the future. They indicated that it was mostly parents, relatives and the school itself that regarded science stream in better light, thus reinforcing their selection of the science stream. In some cases, participants were not even given the opportunity to decide, instead, they were required to enter the science stream after obtaining good results in their examinations. While most participants did not personally feel that art stream was inferior to science, some admitted that they were not exposed to any subjects in that field, hence prefer to remain in their comfort zone by opting for science stream.

> *Let's say you are a science stream student, after SPM is easier to enter art stream, but if you are from art stream you are stuck and cannot change the course anymore. That's why I go into a science stream. (Participant 3, Female, Product Development Technology undergraduate)*

> *I guess I wasn't much expose to business that's why I choose science, is like my only choice. (Participant 5, Female, Biotech undergraduate)*

> *The second thing is that my parents, they support us to go to science. Because parents have perspective that science student are cleverer as compared to art student. They always see science student as the good student, smart student, art student is a bad student, stupid student. (Participant 7, Female, Biotech undergraduate)*

Theme 3: Science as reality or illusion

Contrary to the fun and exciting nature of science from childhood till secondary education, participants begin to express an apprehension for the subject during their tertiary education. They felt a significant difference in difficulty of science subjects between secondary and tertiary education. Specifically, their experience with the subject in the latter involved difficult syllabus, repetitive laboratory work, and strict deadlines. This experience led to precursory feelings of uncertainty and contemplation if science was indeed a suitable path for them to advance their careers in.

> *There seems to be a very large gap between Form Five and foundation so I was kind of struggling for chemistry. It was very hectic in the way I feel that I didn't spend the amount of time that is needed for my family members because all of our time is already given to finish up the assignments. That is one of the regrets during my degree. I really didn't wanted to do anymore (Participant 1, Female, Biotech undergraduate)*

> *Actually start from the first year I realised that the most obvious part is that I thought I could answer all the question but came out the result is not the result that I want. Is not the bad but still I wish, I target for higher result. I actually experienced dilemma of whether I should continue. I just realised is not that easy and that time, of course I will feel very sad. (Participant 7, Female, Biotech undergraduate)*

Furthermore, those that had undergone their practical training or internship in the industry did not seem to feel any better about their career prospects in the industry. Instead, they envisioned that a career in the science industry involves a modest salary scale, repetitive tasks, long working hours and demanding work tasks. Based on the reality check via the brief internship episode, these individuals seemed to experience a sense of indecisiveness and personal struggle in determining their future career plans.

> *You would not feel it that strong, you know that the salary is not high, the career prospect wasn't that good. Only when you go through your internship, you realised that these are all true. (Participant 13, Male, Microbiology undergraduate)*

> *I did not like the working environment, is very hectic. They do a lot of stuffs and each person is assigned to like super a lot of jobs. It's pretty disappointing. You can learn a lot but I just don't like the environment and working hours. I like flexible working hour like in (postgraduate) research. (Participant 5, Female, Biotech undergraduate)*

However, a number of participants who were from pure science courses reported positive experiences in their final year project or an internship experience working in research laboratories in an academic setting. These individuals possessed a high self-esteem for being part of an important research project with their academic supervisors and these undergraduates valued the autonomy to carry out the investigative tasks and possessed a strong sense of ownership in their project work.

While Applied Chemistry have to go for internship, the Pure Chemistry need to work inside University X with a supervisor. You know from the internship that my friends experience, you become a labour worker. You make coffee you get photocopies. This is true, in my labs I feel like one of the scientist that really do science for living. The supervisor respect me as a scientist, in my opinion. (Participant 15, Male, Pure Chemistry undergraduate).

I did my internship in University Y. Actually I was trained as a trainee research assistant. I have been working with Prof XXX, he is also microbiologist. The experience was like they never restricted me, they encourage us to test out our own hypotheses. So, in that case, I enjoy. I extended my internship as well. (Participant 12, Female, Microbiology undergraduate).

Theme 4: Science as transit, crossroad or destination

As the participants were in the final year of studies or had just completed their course, we asked them to share with us their plans for future careers or their current thoughts in future endeavors. While their interest lies in science, some participants were also considering occupations in the business sector or entrepreneurial endeavour which is seemingly more rewarding than science careers in the lab doing research and development. There were also a few participants who preferred non-research roles in science-based organisations such as marketing personnel or consultants where they would be able to meet clients and still be able to apply their scientific knowledge.

I am going to marketing department, for a food company so is also related to food [technology]. I start to consider marketing because it still has very good connection with R&D department and I can travel a lot. I get to meet a lot of people and not just cooped up. I like the job that keep on changing every day and keep on thinking so even though you may be hectic but I think is enjoyable (Participant 3, Female, Product Development Technology undergraduate)

I would like to work in a wastewater related field. I will do the best in advising the client how they should manage their waste in terms of waste management. Second I feel that I can actually be part of the effort in the reducing waste or managing sustainability. (Participant 6, Male, Biotech undergraduate).

A majority of participants (15 participants) were considering an academic career path in the higher education or as school teachers which is perceived as a meaningful pursuit for the betterment of the society. Out of these 15 participants, there were a few individuals who were driven by sheer passion in science, and they are determined to remain progressive in the field through the pursuit of higher degrees. In this regard, salary seems to be a secondary factor of consideration for these individuals.

If I don't have any pure passion for my career, I don't think it will work out for me because I will get tension. I won't think about the salary, the salary is not my cup of tea that I will go for salary. Money we can gain in many other ways, we can go into share and other things like investment. (Participant 23, Female, Pure chemistry undergraduate).

Well, if you really love science. You don't really pursue the money, the money will come to you. You know being in science it is about giving, it is not about taking, that is what I believe. So, if you are in the science field to have a lot of money, you have the wrong purpose. (Participant 15, Male, Pure chemistry undergraduate).

Understandably, other participants were feeling ambivalent about their next step, mostly citing difficulty in getting a job or a challenging journey ahead as barriers to pursue their career in science. They believed that as fresh graduates in the science field, their knowledge and experience was not sufficient to secure a research position in the industry which necessitated postgraduate qualifications. Furthermore, even if they did manage to obtain a job, the starting salary was significantly lower than that of a fresh graduate in business or arts sector. These obstacles combined with a keen interest for the science field has thus left participants at a crossroad on their career plans, and postgraduate studies are seen as a point of transit for future careers in the industry or in the academia which is perceived to offer better salaries.

It is hard to get a job with my degree in science. It is hard to get into industry and research. Employers will be more impressed with Masters. (Participant 22, Male, Pure physics undergraduate).

When you only have a degree in this field, the pay is not very high. Like fresh grad is like RM2000. So I think if I continue study, I work as research assistant, also get RM1800. (Participant 16, Male, Biochemistry undergraduate)

That time (during secondary school) I thought science very noble job or what. Then I also thought that the salary is very high. But you want to get a high salary for science field right, you need to study very high level, like PhD. (Participant 14, Male, Microbiology undergraduate).

While sharing on their career considerations, a significant pattern can be observed among these Generation Y participants that they value work-life balance regardless of gender. For Participant 21, he was very decisive in an academic career which is perceived to provide a more enabling environment for work-life balance that will be important for him as the head of the family. For a few female participants in the Engineering degree, they tend to prefer a career in academia during the later part of their career as it avails them the opportunities to spend more time with their families.

Someday I have my own family, someday I have to take care of my own family, especially if you are a man. We have to balance time between work and family. My father ask we what do I expect from the next generation and he made comparison. For me it is a very deep message. I study not for my own future, it is for the next generation. (Participant 20, Male, Material Science undergraduate).

> *If I want to work as an engineer, after I settle down it would be quite difficult to accompany my family. That is one of my concern that is why I was thinking about doing PhD, so that I can go to lecture but not my first choice. (Participant 18, Female, Chemical Engineering undergraduate).*

Discussion, Implications and Conclusion

The results gathered lends support to the Social Cognitive Career Theory by demonstrating the footprints of self-efficacy and outcome expectations on participants' persistence in the science field. The perception of science as an advantageous selection that will equip participants with not only an extensive range of future career choices but also a socially approved and respected path has strongly influenced one's intention to pursue a career in science. Most participants had alluded to this perception during secondary education as they proceeded to enroll in science stream after obtaining the required results. Interestingly, we note a bi-directional relationship between self-efficacy and outcome expectations in that the positive viewpoint of science drives one to choose the science stream while being accepted into science enhances one's self-esteem as they are associated with the "preferred" option. The role of self-efficacy is further reinforced during tertiary education when participants reported difficulties in coping with academic workload, hence experiencing reservations about pursuing a career in the field. This corroborated with findings from Byars-Winston and Fouad (2008) in that maths or science self-efficacy directly predicted outcome expectations while maths/science interest exhibited a direct relationship to goals.

The phenomenological approach used in the present study also drew focus to how their experiences with science influences one's subsequent decision-making and career intentions. In the theme 'Science as fantasy and discovery', participants' descriptions were more emotion-laden, citing feelings of wonder and fascination upon initial exposure to scientific knowledge and applications. In line with findings from Oon and Subramaniam (2013), laboratory work, enrichment programs such as talks and competitions, and good teachers were reported to trigger feelings of excitement and inspiration, thus encouraging interest for science subjects. These positive emotional experiences were observed to be highly instrumental in steering participants to plan their future path and ambition in the science field. More importantly, these emotions are deep-rooted and enduring, maintaining a strong hold in participants to pursue a career in science even as they discover unpleasant aspects of the field. A majority of participants were passionate to remain in science, opting only for different roles within the field to improve their prospects.

While all participants share a common interest for the science field, their intention to maintain science as a career choice is derived from individual factors of motivation. Looking into the long-term future, male participants for example, tend to place more emphasis on monetary reward in their career consideration. Unfortunately, the perception of a modest income associated with a career in science leaves them in predicament in deciding their future career options. Female participants, on the other hand, in anticipation of the traditional gender role of managing household and family aspects held preference for a career that

would be family-friendly in terms of flexible hours and a moderate workload. They believe this can be attainable by pursuing the academic route as a lecturer. Yet, as an immediate concern, a significant number of participants cite passion and significance of work as a crucial factor. In line with recent reports of the 'Generation Y' or 'Millennial' work trend, the findings of this study seem to suggest that this new generation of science students view their career as a course of exploring their passion, obtaining fulfilment rather than purely focusing on financial security (Seager, 2014). Although salary does feature as a salient factor, work-life balance also emerged as a strong predictor in the career choices of this future workforce.

In essence, the present study has provided a processual view of individuals' lived experiences with science and technology from their childhood, their educational experiences and perceived self-efficacy which shape their career motivations and aspirations. Specifically, we are able to impart valuable insight on the perceived barriers to undergraduates' intentions of pursuing science as a field of study and as a career choice. The main deterrent to choosing a career in science prevails in the nominal salary received in return for tedious hours and workload, which is highly demotivating when compared to an equivalent position in the business or arts sector.

There was also an expressed concern for the lack of job opportunities for fresh graduates in the R&D sector as preferences are usually given to those with higher degrees. The internship programs of final year undergraduates also deserve serious attention as these encounters contribute towards the formation of one's impression towards a science career and hence, his or her decision in future career paths. Strong partnership is indeed necessary between the universities and corporations to ensure that mental and emotional support is provided and meaningful learning experiences take place during this period of internship engagement. While it is important for policy makers and researchers to encourage an upward trend towards the enrolment and completion of undergraduates in STEM courses, our findings highlight the complex interplay of factors which impact upon student entry and persistence towards a science career. Further research of a longitudinal study in nature would be useful to track the experiences of science undergraduates throughout their first few years of work to assess their quality of life and career satisfaction based on the choices they made.

References:

Arthur, M.B., Hall, D.T., & Lawrence, B.S. (Eds). (1989). *Handbook of career theory*. New York: Cambridge University Press.

Bonaccio, S., Gauvin, N. & Reeve, C.L. (2014). The Experience of Emotions During the Job Search and Choice Process Among Novice Job Seekers. *Journal of Career Development, 41*(3), 237-257.

Byars-Winston, A., Estrada, Y., Howard, C., Davis, D., & Zalapa, J. (2010). Influence of social cognitive and ethnic variables on academic goals of underrepresented students in science and engineering: A multiple groups analysis. *Journal of Counselling Psychology, 57*(2), 205-218.

Byars-Winston, A., & Fouad, N.A. (2008). Math and science social cognitive variables in college students. Contributions of contextual factors in predicting goals. *Journal of Career Assessment, 16*(4), 425-440.

De Balzac, H. (2008). *Scene of Parisian Life*. Read Books.

Erikson, E.H. (1968). *Identity: Youth and Crisis*. New York: Norton.

Forbes. (2013). *New Survey Asks Employees: What Salary Level Defines Success?* Retrieved on 7th April 2015, from http://www.forbes.com/sites/jacquelynsmith/2012/06/13/new-survey-asks-employees-what-salary-level-defines-success/

Frijda, N.H. & Parrott, W.G. (2011). Basic emotions or ur-emotions. *Emot. Rev. 3*, 416-423.

Harren, V.A. (1979). A Model of Career Decision Making for College Students. *Journal of Vocational Behavior, 14*, 119 – 133.

Ibrahim, A. (2012). Need to revive interest in science. Retrieved on 10th March 2015, from http://www2.nst.com.my/streets/johor/need-to-revive-interest-in-science-1.143805

Inda, M., Rodríguez, C. & Peña, J.V. (2013). Gender differences in applying social cognitive career theory in engineering students. *Journal of Vocational Behaviour, 83*, 346-355.

Kember, D, Ho, A & Hong, C 2010, 'Initial motivational orientation of students enrolling in undergraduate degrees', *Studies in Higher Education*, *35(3),* 263-276.

Lai, M.C. & Yap, S.F. (2004). Technology development in Malaysia and the newly industrialized economics: A comparative analysis. *Asia-Pacific Development Journal, 11*(2), 53-80.

Lent, R.W., Brown, S.D. & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice and performance. *Journal of Vocational Behaviour, 45*, 79-122.

Lichtman, M. (2006). *Qualitative research in education: A user's guide*. Thousand Oaks, CA: Sage Publications.

Mikels, J.A., Maglio, S.J., Reed, A.E., & Kaplowitz, L.J. (2011). Should I Go With My Gut? Investigating the Benefits of Emotion-Focused Decision Making. *Emotions, 11*(4), 743-753.

National Center for Education Statistics. (2014). *STEM Attrition: College Students' Paths Into and Out of STEM Fields.* Retrieved on 10th March 2014, from http://nces.ed.gov/pubs2014/2014001rev.pdf

Ng, T.W.H., Eby L.T., Sorensen, K.L. & Feldman, D.C. (2005). Predictors of objective and subjective career success. A meta-analysis. *Personnel Psychology, 58*, 367-408.

Oon, P.T. & Subramaniam, R. (2013). Factors Influencing Singapore Students' Choice of Physics as a Tertiary Field of Study: A Rasch analysis. *International Journal of Science Education, 35*(1), 86-118.

Rogers, M.E. & Creed, P.A. (2011). A longitudinal examination of adolescent career planning and exploration using a social cognitive career theory framework. *Journal of Adolescence, 34*, 163-172.

Seager, C. (2014). Generation Y: why young job seekers want more than money. Retrieved on 23rd April, 2015, from http://www.theguardian.com/social-enterprise-network/2014/feb/19/generation-y-millennials-job-seekers-money-financial-security-fulfilment

United Nations Millennium Report (2010), *Innovation: Applying knowledge in development*, viewed on 15 July 2013, http://www.unmillenniumproject.org/reports/tf_science.htm

What are the Differences in Learning Environments of Elementary and Junior High School in Japan?

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Abstract

This study investigated the differences in learning environments between elementary and junior high school in Japan and explores possible factors to influence student's motivation through retrospective method.

In total, 212 Japanese students in 7th grade (112 boys and 100 girls; average age = 12.33 years) in one public junior high school participated in this questionnaire survey. The questionnaire included two questions: "Do you feel more difficulty in following the classes in junior high school compared to elementary school" with the available answers being yes, or no. After this question, this survey asked "why do you feel difficulty following the classes in junior high school" for students responding "yes" in the first question by open-ended style. For the first question, 149 students (70.28%) responded "yes". The answers to the open-ended question provided 203 statements from the students. These statements were classified into 12 categories through the KJ method: (a) Difficulty in the learning contents of the junior high school classes, (b) High speed of the classes, (c) Increase of the amount of the learning content, (d) Existence of regular tests, (e) Many things to memorize, (f) Absence of self-learning time due to club activities or cram school, (g) Increase of the number of class, (h) Inherently poor ability to study, (i) Large number of tasks, (j) Poor teaching ability of the teachers, (k) Comparison of academic grade of the regular tests, (l) Others.

Keywords: learning environment, elementary school, junior high school

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Introduction

Many researchers have demonstrated that academic motivation, especially intrinsic motivation, declines through the school years (Gottfried, Fleming, & Gottfried, 2001; Hater, 1981; Lepper, Corpus, & Iyenger, 2005). Through a 3-year longitudinal survey of a Japanese sample, however, Nishimura & Sakurai (2010) suggested that only autonomous motivation including intrinsic motivation, decreased with school years. In contrast, controlled motivation increased within the same period. Nishimura & Sakurai (2013) also showed that these changes particularly occur between the periods of transition from elementary to junior high school. This result suggests that Japanese student's motivation became more controlled, rather than autonomous, as they age.

How can these results be explained? Blyth, Simmons, & Darlton-Ford (1983) stated that elementary school empathizes a process toward academic achievement as well as achievement itself, while junior high school empathizes academic performance and gave the student a positive or negative evaluation. Stipek & Iver (1989) stated that students conduct social comparison in the environment to be focused an achievement. Such a social comparison relatively occurred in junior high school compared to elementary school (Feldlaufer, Midgley, & Eccles, 1998). Therefore, enhancing an importance of academic performance and conducting the social comparison contained the possibility to enhance a sense of being controlled and undermined autonomy toward academic activity. Hence, student's motivation changes into being controlled. In addition, OECD (2010) suggested that Japanese education place importance on discipline within the learning environment compared to other countries. This report implied that controlled aspects are exposed in the learning environment within elementary and junior high schools in Japan.

As stated above, there has been discussion on the issue from the perspective of changes in school environments; however, there are few empirical investigations exploring on the differences of the learning environments between elementary and junior high schools. In this study, first-year junior high school students were asked what the differences in learning environments of elementary and junior high school are through retrospective method.

Objective of the Present Study

This study investigates the differences in learning environments between elementary and junior high school in Japan and explores why student's motivation shifts from autonomous to being controlled.

Method

A questionnaire survey was conducted on students in a 7th grade, junior high school in June, 2014. The students were first-year in junior high school and two months had passed since their first school term started. The questionnaire included the two question: (1) "Do you enjoy classes in junior high school more compared to elementary school" with available answers being yes, equally, or no. (2) "Do you feel more difficulty in following the classes in junior high school compared to elementary school" with the available answers being yes, or no. After the two questions, the questionnaire survey also asked the main reason why the student felt difficulty in following the classes in junior high school for students responding "yes" in question (2) by open-ended style.

Participants

In total, 212 students in 7th grade (112 boys and 100 girls; average age = 12.33 years) in one public junior high school in Kanto region in Japan participated in this survey. Most entered this junior high school from four different elementary schools.

Results

For the first question (1), 60 students (28.30%) responded "yes" that means they felt enjoyment in their junior high classes. 117 students (55.18%) responded "equally". 35 students (16.51%) responded "no". For the next question (2), 149 students (70.28%) responded "yes" that means they felt difficulty in following the classes in junior high school compared to elementary school. 63 students responded "no". 34 students (16.03%) answered "yes" in (1) and (2) question.

The answers to the open-ended question provided 203 statements regarding why those responded with "yes" to question (2), felt difficulty in following the junior high school classes.

Table 1　Result of classification in regard to student's statements

Category	Number of statements	Ratio (%)	Boys	Girls
Difficulty in the learning contents of the junior high school classes	69	33.99	37	32
High speed of the classes	33	16.26	8	25
Increase of the amont of the learning content	22	10.84	13	9
Existence of regular tests	17	8.37	7	10
Many things to memoraize	15	7.39	3	12
Absence of self-learning time tue to club activities or clam school	13	6.40	8	5
Increase of the number of class	12	5.91	6	6
Inherently poor ability to study	10	4.93	6	4
Large number of tasks	4	1.97	1	3
Poor teaching ability of the teachers	2	0.99	1	1
Comparison of academic grade of the regular tests	2	0.99	0	2
Other	4	1.97	3	1
Total	203	100.00		

These statements were classified into 12 categories through the KJ method, the result was shown in Table 1: (a) Difficulty in the learning contents of the junior high school classes (69 statements, 33.99%), (b) High speed of the classes (33, 16.26%), (c) Increase of the amount of the learning content (22, 10.84%), (d) Existence of regular tests (17, 8.37%), (e) Many things to memorize (15, 7.39%), (f) Absence of self-learning time due to club activities or cram school (13, 6.40%), (g) Increase of the number of class (12, 5.91%), (h) Inherently poor ability to study (10, 4.93%), (i) Large number of tasks (4, 1.97%), (j) Poor teaching ability of the teachers (2, 0.99%), (k) Comparison of academic grade of the regular tests (2, 0.99%), (l) Others (4, 1.97%).

Discussion

The present study investigated differences of learning environment between elementary and junior high schools through a retrospective method by questionnaire survey. The results showed that 28.30% of students respond that they felt enjoyment in classes in junior high school compared to those in elementary school, and 70.28% of students felt difficulty in following the class. Meanwhile, the results also indicated 16.03% of students who felt both enjoyment and difficulty in class.

Through the KJ method, 12 categories regarding reasons why students felt difficulty in junior high school compared to elementary school. These 12 categories could be considered as a possible cause of why students' motivation change to controlled from autonomous.

"Difficulty in the learning contents of the junior high school classes" involved a decline in the student's perception of their competence in learning. According to Self-determination Theory (Ryan & Deci, 2000), competence is one of the basic psychological needs to maintain a state of motivation or prevention of a threat to the autonomy of a motivation. In addition, much research reveals the decline of perceived competence over school years (Jacobs, Lanze, Osgood, Eccles, & Wigfield, 2002; Wigfield et al., 1997). The present finding that "Difficulty in the learning contents of the junior high school classes" was stated as the most influential factor on student's motivation (33.99%), relates to the result of the previous research that showed the decrease of students' perceived competence.

Only the one category "Existence of regular tests", which is one of the control events, has been implied by previous research as the possible factor influencing the students' motivation to change to controlled from autonomous. However, other categories are the new findings of this research. This presents a contribution to this field, and gives a new considerations for understanding the students' motivational changes over school years, especially in the period of school transition from elementary to junior high school.

Limitations

Several limitations require consideration concerning this study. One limitation of this study was its reliance on the report from the students in one public junior high school. Clearly, replication of this study is necessary, and future studies should be conducted on the large sample survey. Another question worthy of future research is to examine whether those 12 experiences impact on student's motivation and change it into being controlled based on empirical study. A longitudinal data and more sophisticated analyses would offer better causal insights into students' motivational changing.

Conclusion

The present study has revealed 12 possible experiences to change student's motivation to control from autonomous in the periods of school transition from elementary to junior high school. This study also represents an important a step in understanding the Japanese students' motivation.

References

Blyth, D. A., Simmons, R. G., & Carlton-Ford, S. (1983). The adjustment of early adolescents to school transitions. *Journal of Early Adolescence*, **3**, 105-120.

Feldlaufer, H., Midgley, C., & Eccles, J. (1988). Student, teacher, and observer perceptions of the classroom environment before and after the transition to junior high school. *Journal of Early Adolescence*, **8**, 133-156.

Gottfried, A, E., Fleming, J. S., & Gottfried, A, W. (2001). Continuity of academic intrinsic motivation from childhood through late adolescence: A longitudinal study, *Journal of Educational Psychology*, **93**, 3-13.

Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. *Developmental Psychology*, **17**, 300-312.

Jacobs, J. E., Lanze, S., Osgood, D. W., Eccles, J, S., & Wigfield, A. (2002). Changes in children's self-competence and values: gender and domain differences across grades one through twelve. *Child Development*, **73**, 509-527.

Lepper, M, R., Corpus, J, H., & Iyenger, S. S., (2005). Intrinsic and extrinsic motivational orientations in the classroom: Age differences and academic correlates. *Journal of Educational Psychology*, **97**, 184-196.

Nishimura, T., & Sakurai, S. (2013). Changes in academic motivation among elementary and junior high school students. *Japanese Journal of Psychology*. **83**, 546-555.

Nishimura, T., & Sakurai, S. (2010). Relationship between academic motivation and educational consequences in Japanese junior high school students: A 3-year longitudinal study. 4th International SDT Conference, 236. (No.36)

OECD (2010). The learning environment, *PISA 2009 Results: What makes a school successful?-Volume4*. Pp. 87-102.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, **55**, 68–78.

Stipek, D., & Iver, D, M. (1989). Developmental change in children's assessment of intellectual competence, *Child Development*, **60**, 521-538.

Wigfield, A., Eccles, J. S., Suk Yoon, K., Harold, R. D., Arbreton, A. J. A., Freedman-Doan, C., & Blumenfeld, P. C. (1997). Change in children's competence beliefs and subjective task values across the elementary school years: a 3-year study. *Journal of Educational Psychology*, **89**, 451-469.

The Compositions, Antecedents and Consequences of Brand Loyalty

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Abstract
Retaining customers has become more important since the market is so competitive. A great deal of practitioners and academics have been devoting their effort to study how to create and maintain consumers' brand loyalty because brand loyal consumers benefit a firm by reducing marketing costs. In addition, these loyal consumers are willing to pay premium prices to stay connected with a brand. Most importantly, they not only live up to their loyal behavior by undertaking repeat purchase on a brand, but also disseminate positive word-of-mouth encouraging their peers to purchase the same brand. The purpose of this study is to identify the three underlying dimensions of brand loyalty (behavioral brand loyalty, attitudinal brand loyalty and composite brand loyalty) and to examine the relationships between these three brand loyalties and their antecedents (functional value, emotional value, social value, epistemic value, and conditional value) and their consequences (purchase intention and word-of-mouth). This study provided empirical evidence in the mobile phone industry, and found that the three underlying structure of brand loyalty had been confirmed and ought to be measured simultaneously in the mobile phone industry; only functional value and epistemic value had a positive and significant associations with the three brand loyalties; there was a positive and significant relationship between composite brand loyalty and the consequences of brand loyalty (purchase intention and word-of-mouth); only composite brand loyalty served as a mediator between the antecedents and consequences of brand loyalty.

Keywords: behavioral, attitudinal, composite, brand loyalty, perceived value

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Introduction

Retaining customers has become more important since the market is so competitive. A great deal of practitioners and academics have devoted their effort to study how to create and maintain consumers' brand loyalty because brand loyal consumers benefit a firm by reducing marketing costs associating with attracting new customers (Tu, Li, & Chih, 2013). In addition, these loyal consumers are willing to pay premium prices to stay connected with a brand (Porral, Bourgault, & Dopico, 2013). Most importantly, they not only live up to their loyal behavior by undertaking repeat purchase on a brand, but also disseminate positive word-of-mouth encouraging their peers to purchase the same brand (Lo, 2012).

The objectives of this research

Jacoby and Chestnut (1978) suggest that brand loyalty should be measured in multi-dimensional way, and can be identified as behavioral, attitudinal, and composite brand loyalty. However, there is no research done to investigate whether those three brand loyalties can serves as underlying structure of the general brand loyalty. Therefore, the first objective of this study is to verify whether the underlying structure of brand loyalty consists of behavioral, attitudinal, and composite brand loyalty.

Investigating consumer perception will be able to help marketers better understand how their consumers perceive the brand and how loyal they are. Both the consumption value theory, proposed by Sheth et al. (1991), and PERVAL model, proposed by Sweetney and Soutar (2001) explain why consumers choose a specific brand or product over another one. However, perceived value has been reported having an indirect effect on brand loyalty, and requires satisfaction serving as a mediating role in the relationship between perceived value and brand loyalty (Wang, Lo, Chi, & Yang, 2004). Hence, the second objective of this study is to identify whether perceived value is able to serves as an antecedent of brand loyalty.

A third objective of this study is to empirically examine the effects of brand loyalty on consumers' behavioral outcome. Gounaris and Stathakopoulos (2004) have demonstrated that loyal consumers might not undertake repeat purchase on a brand and non-loyal consumers might often repurchase a single brand over time. In addition, empirical researches found that repeat purchase is not the only result of brand loyalty (Tranberg & Hansen, 1986). Word-of-mouth, however, can serve as one of consequences of brand loyalty because loyal consumers always disseminate positive word-of-mouth (Lau & Lee, 1999). Thus, purchase intention and word-of-mouth should be reviewed to see whether there is an association between brand loyalty and these consequences.

Purpose of the Study

The purpose of this study is to *identify* the three underlying dimensions of brand loyalty (behavioral brand loyalty, attitudinal brand loyalty and composite brand loyalty) and to *examine* the relationships between these three brand loyalties and their antecedents (functional value, emotional value, social value, epistemic value, and conditional value) and their consequences (purchase intention and word-of-mouth).

Research Questions and Research Hypotheses

This study attempts to investigate the following question: (1) Can behavioral brand loyalty, attitudinal brand loyalty, and composite brand loyalty serve as the underlying structure of general brand loyalty? (2) Once the underlying structure are confirmed, are behavioral brand loyalty, attitudinal brand loyalty, and composite brand loyalty still have significant associations with their antecedents (five perceived values) and consequences (purchase intention and word-of-mouth).

Based on these research questions, their corresponding hypotheses can be developed as follows:

H_{1o}: Brand loyalty is not a multidimensional construct of behavioral, attitudinal, and composite brand loyalty.

  H_{1a}: Brand loyalty is a multidimensional construct of behavioral, attitudinal, and composite brand loyalty.

H_{2o}: Functional value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.

  H_{2a}: The higher the functional value perceived by consumers, the greater the behavioral brand loyalty.

  H_{2b}: The higher the functional value perceived by consumers, the greater the attitudinal brand loyalty.

  H_{2c}: The higher the functional value perceived by consumers, the greater the composite brand loyalty.

H_{3o}: Emotional value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.

  H_{3a}: The higher the emotional value perceived by consumers, the greater the behavioral brand loyalty.

  H_{3b}: The higher the emotional value perceived by consumers, the greater the attitudinal brand loyalty.

  H_{3c}: The higher the emotional value perceived by consumers, the greater the composite brand loyalty.

H_{4o}: Social value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.

  H_{4a}: The higher the social value perceived by consumers, the greater the behavioral brand loyalty.

  H_{4b}: The higher the social value perceived by consumers, the greater the attitudinal brand loyalty.

  H_{4c}: The higher the social value perceived by consumers, the greater the composite brand loyalty.

H_{5o}: Epistemic value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.

  H_{5a}: The higher the epistemic value perceived by consumers, the greater the behavioral brand loyalty.

  H_{5b}: The higher the epistemic value perceived by consumers, the greater the attitudinal brand loyalty.

  H_{5c}: The higher the epistemic value perceived by consumers, the greater the composite brand loyalty.

H_{6o}: Conditional value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.

H_{6a}: The higher the conditional value perceived by consumers, the greater the behavioral brand loyalty.

H_{6b}: The higher the conditional value perceived by consumers, the greater the attitudinal brand loyalty.

H_{6c}: The higher the conditional value perceived by consumers, the greater the composite brand loyalty.

H_{7o}: All of behavioral, attitudinal, and composite brand loyalty has no positively significant influences on purchase intention.

H_{7a}: The higher the behavioral brand loyalty, the greater the purchase intention.

H_{7b}: The higher the attitudinal brand loyalty, the greater the purchase intention.

H_{7c}: The higher the composite brand loyalty, the greater the purchase intention.

H_{8o}: All of behavioral, attitudinal, and composite brand loyalty has no positively significant influences on word-of-mouth.

H_{8a}: The higher the behavioral brand loyalty is, the greater the propensity of disseminating positive word-of-mouth.

H_{8b}: The higher the attitudinal brand loyalty is, the greater the propensity of disseminating positive word-of-mouth.

H_{8c}: The higher the composite brand loyalty is, the greater the propensity of disseminating positive word-of-mouth.

Methodology

In this study, mobile phone users in Taiwan were chosen as the targeted population. Two stages of research design were employed to gather data from mobile phone users in the study, including the pre-test to gain insight and to purify measurement, and the main study to examine the proposed hypotheses and conceptual framework. Both the pre-test and the main study took quantitative approach in the collection of data. In addition, the remained items from the pre-test were used in the main study to test the research hypotheses.

For the pre-test, the author of this study used convenient samples in the university where the author is working for. A total two hundreds participants from four classes of the university were acquired for the pre-test, in order to fulfill the requirement of exploratory factor analysis. For the main study, the author of the study randomly selected one university in each of northern, middle, and southern part of Taiwan as the site to undertake the surveying activity. In each university selected, one hundred questionnaires from two randomly selected classes were projected to be obtained. A total three hundreds participants from those three universities were needed for the main study to meet the threshold of structural equation modeling.

Pre-test

In the pre-testing stage, two hundreds participants were expected to participate this study. Each participant were required self-administrated in the completion of a 17-items brand loyalty questionnaire. The sample size met the requirement of Exploratory Factor Analysis (EFA) for data analysis.

Main Study

In the main study, three hundreds participants attended the surveying activity. Each participant were asked self-administrated in the completion of a questionnaire which consists of the remaining items for brand loyalty, 17-items for perceived values, 3-items for purchase intention, and 4 items for word-of-mouth. Because of that this stage employed both Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM) for data analysis.
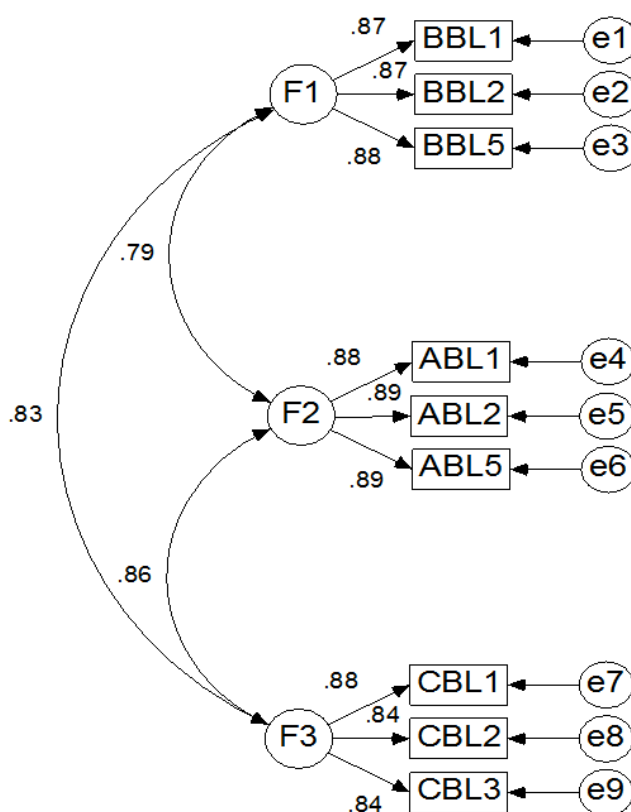
Results

The results accordingly depicted the designed three stable constructs with the eigenvalue of each factor larger than one, the loading of each item more than 0.5, and communalities of each item greater than 0.5 (see Figure 1.). Reliability test were also performed to assure the consistency in measurement of the result, with the value of each coefficient alpha larger than 0.7 indicating that these multiple measures were considered highly reliable in the measurement of each construct. Therefore, the reduction of measurement items for behavioral, attitudinal, and composite brand loyalty were successfully performed by employing above analyses, resulting the three items for each construct of brand loyalty for the subsequent main study.

Item	Factor 1	Factor 2	Factor 3	Communalities	Cronbach's Alpha
(BBL1) I purchase the brand most often		.841		.789	
(BBL2) I consistently purchase the brand		.769		.741	
(BBL5) I have used the brand for a long time		.799		.781	.830
(ABL1) I like the brand	.862			.808	
(ABL2) I have liked the brand for a certain length of time	.772			.726	
(ABL5) I have a favorable attitude toward the brand	.761			.721	.816
(CBL1) I am loyal to the brand			.720	.767	
(CBL2) I would stay with the brand even though other brands offer better deals			.875	.806	
(CBL3) The brand is my top choice			.746	.750	.837
Eigenvalue	4.712	1.157	1.018		.884

Figure 1: EFA with 9 remained items (pre-test).

AMOS 6.0 was utilized to test the goodness of fit for the model with several criteria, including Chi-square, root mean square of approximation error (RMSEA), comparative fit index (CFI), goodness of fit index (GFI) (Byrnne, 2001; Hair et al, 1998). As Figure 4-1 exhibits, the results (χ^2=69.0, df= 24, p=0.000, GFI=0.952, CFI=0.98, RMSEA=0.08) showed a good fit for the model retained from the pretest.

The χ^2 /*df* value of 2.875 fall within an acceptable range of 2 to 5 at 0.00 significant level. In addition, the values for both GFI and CFI were greater than 0.9 and RMSEA value was equal to 0.08, revealing an excellent goodness of fit indexes. Moreover, all of estimates after standardization showed distinct factor loadings. Although the estimates among behavioral brand loyalty, attitudinal brand loyalty, and composite brand loyalty were slightly high in-between, it was reasonable because composite brand loyalty can serve as the assemblage of behavioral brand loyalty and attitudinal brand loyalty (Jacoby & Chestnut, 1978). Based on the evidences found in Figure 2, brand loyalty can be considered as a multidimensional construct of behavioral brand loyalty, attitudinal brand loyalty, and composite brand loyalty. Hence, the Hypothesis H_1 was accepted. Moreover, the results of the confirmatory factor analysis provided support for the reliable measurement for behavioral brand loyalty, attitudinal brand loyalty, and composite brand loyalty, which enabled the author of this study to examine the succeeding hypotheses of this study.

Chi-square=69.0, df=24, P=0.000, GFI=0.952, CFI=0.98, RMSEA= 0.08

Figure 2: Confirmatory Factor Analysis (CFA) Result for the Main Study

Figure 3 showed the modified model. It included the additional paths between social value and purchase intention and between social value and word-of-mouth in order to measure the direct effect. The purpose of adding paths instead of deleting paths is to prevent the analysis from the suppressing effect, the phenomenon when the omitted variable might cause coefficients in the model been underestimated rather than overestimated.
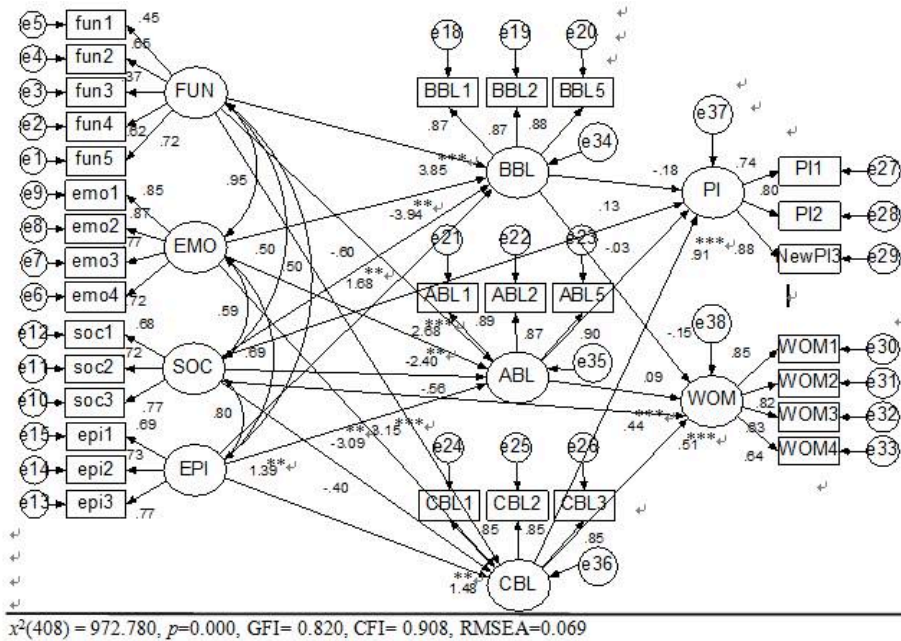
$x^2(408) = 972.780$, p=0.000, GFI= 0.820, CFI= 0.908, RMSEA=0.069

Figure 3: Structural Equation Modeling (SEM) Result for the Main Study: Modified Model

Path	Hypothesis	Unstandardized	Standardized	P-value
Cause → Effect		Estimates	Estimates	
FUN→BBL	H2a(+)	5.792	3.850	***
FUN→ABL	H2b(+)	3.609	2.681	***
FUN→CBL	H2c(+)	4.268	3.149	***
EMO→BBL	H3a(+)	-5.804	- 3.936	0.002**
EMO→ABL	H3b(+)	-3.173	- 2.405	0.006**
EMO→CBL	H3c(+)	-4.103	- 3.089	0.003**
SOC→BBL	H4a(+)	-.876	- 0.595	0.178
SOC→ABL	H4b(+)	-.743	- 0.564	0.072
SOC→CBL	H4c(+)	-.534	- 0.403	0.265
SOC→WOM		.523	0.444	***
SOC→PI		.157	0.126	0.062
EPI→BBL	H5a(+)	2.448	1.678	0.010**
EPI→ABL	H5b(+)	1.809	1.386	0.003**
EPI→CBL	H5c(+)	1.950	1.484	0.005**
BBL→PI	H7a(+)	-.154	-0.182	0.093
ABL→PI	H7b(+)	-.026	-0.028	0.809
CBL→PI	H7c(+)	.853	0.909	***
BBL→WOM	H8a(+)	-.122	-0.152	0.153
ABL→WOM	H8b(+)	.082	0.092	0.419
CBL→WOM	H8c(+)	.458	0.515	***

Goodness of fit statistics:	$x^2(408) = 972.780$, p=0.000
	GFI = 0.820
	CFI = 0.908
	RMSEA = 0.069

Model Comparison
Model One vs. Model Two [$\triangle x^2(\triangle df)$]: 31.98(2) , p=0.000

a. FUN: functional value, EMO: emotional value, SOC: social value, EPI: epistemic value, BBL: behavioral brand loyalty, ABL: attitudinal brand loyalty, CBL: composite brand loyalty, PI: purchase intention, WOM: word-of-mouth

Figure 4: Structural Parameter Estimates: Modified Model (n=295)

Figure 4 reported the structural estimates from the modified model with the following statistics: $x^2(408) = 972.780$, GFI= 0.820, CFI= 0.908, RMSEA=0.069. In order to depict the efficiency of the modified model, a comparative fit statistics were undertaken. Chi-square decreased 31.98 while degree of freedom was down to 408, indicating the modified model is slightly parsimonious and fits seems better than the hypothesized model. Thereby, the modified model provided a better basis for hypotheses testing. In addition, based on the modified model, it should be noticed that social value only produced a significant direct effect on word-of-mouth, indicating that social value were unable to be used to predict either attitudinal brand loyalty or purchase intention.

The following hypotheses were tested based on the modified model:

H_2: Functional value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.
  H_{2a}: The higher the functional value perceived by consumers, the greater the behavioral brand loyalty.
  H_{2b}: The higher the functional value perceived by consumers, the greater the attitudinal brand loyalty.
  H_{2c}: The higher the functional value perceived by consumers, the greater the composite brand loyalty.

The effect of functional value on behavioral brand loyalty was positively significant at the $p<0.001$ level with an unstandardized estimate value of 5.792 (p=0.000). It also had positively significant effect on both attitudinal brand loyalty (unstandardized estimate = 3.609, p=0.000) and composite brand loyalty (unstandardized estimate = 4.268, p=0.000) at the $p<0.001$ level. Hence, the null hypothesis H2 was rejected and supports were found for the alternative hypotheses H2a, H2b, and H2c, which meant that the higher the functional value perceived by consumers, the greater the behavioral, attitudinal, and composite brand loyalty.

H_3: Emotional value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.
  H_{3a}: The higher the emotional value perceived by consumers, the greater the behavioral brand loyalty.
  H_{3b}: The higher the emotional value perceived by consumers, the greater the attitudinal brand loyalty.
  H_{3c}: The higher the emotional value perceived by consumers, the greater the composite brand loyalty.

The unstandardized estimate for the effect of emotional value on behavioral brand loyalty was -5.804 (p=0.002), the effect on attitudinal brand loyalty was -3.173 (p=0.006), and on composite brand loyalty was -4.103 (p=0.003).Hence, the null hypothesis H3 was accepted meaning that emotional value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty. Although the p values for those three hypotheses were lower than 0.01 indicating the significant effect of emotional value on those three brand loyalties. However, all of the estimates were showed negative. Based on the result from the modified model, emotional value had a higher correlation of 0.95 with functional value, while epistemic value and social value had a lower but still notable correlation with emotional value.

Thus, the paths between emotional value and the three brand loyalties produced suppressed effects and subsequently caused a multicollinearity problem.

H_4: Social value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.
    H_{4a}: The higher the social value perceived by consumers, the greater the behavioral brand loyalty.
    H_{4b}: The higher the social value perceived by consumers, the greater the attitudinal brand loyalty.
    H_{4c}: The higher the social value perceived by consumers, the greater the composite brand loyalty.

The effects of social value on all of behavioral, attitudinal, and composite brand loyalty were found insignificant and negative. The unstandardized estimate between social value and behavioral brand loyalty was -.876 (p=0.178), while between social value and attitudinal brand loyalty was -.743 (p=0.072) and between social value and composite brand loyalty was -.534 (p=0.265). In other word, the null hypothesis H4 was accepted, which indicated that social value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.

H_5: Epistemic value has no positively significant effect on behavioral, attitudinal, and composite brand loyalty.
    H_{5a}: The higher the epistemic value perceived by consumers, the greater the behavioral brand loyalty.
    H_{5b}: The higher the epistemic value perceived by consumers, the greater the attitudinal brand loyalty.
    H_{5c}: The higher the epistemic value perceived by consumers, the greater the composite brand loyalty.

Three positively significances were found, at the p<0.01 level, between epistemic value and three brand loyalties (behavioral, attitudinal, and composite) with the unstandardized estimates of 2.448(p=0.010), 1.80(p=0.003), and 1.950(p=0.005). The null hypothesis H5 was rejected and supports were found for the alternative hypotheses H5a, H5b, and H5c. That is, the higher the epistemic value perceived by consumers, the greater the behavioral, attitudinal and composite brand loyalty.

H_7: All of behavioral, attitudinal, and composite brand loyalty has no positively significant influences on purchase intention.
    H_{7a}: The higher the behavioral brand loyalty, the greater the purchase intention.
    H_{7b}: The higher the attitudinal brand loyalty, the greater the purchase intention.
    H_{7c}: The higher the composite brand loyalty, the greater the purchase intention.

Two negatively insignificant sign were found between behavioral brand loyalty and purchase intention (the unstandardized estimate = -0.154, p=0.093) and between attitudinal brand loyalty and purchase intention (the unstandardized estimate = -0.026, p=0.809). In contrast to behavioral brand loyalty and attitudinal brand loyalty, composite brand loyalty had a positively significant effect on purchase intention (the unstandardized estimate=0.853, p=0.000), at the p<0.001 level. Hence, the null hypothesis H7 was rejected and supports was found for the alternative hypothesis H7c, which was the higher the composite brand loyalty, the greater the purchase intention.

H_{8o}: All of behavioral, attitudinal, and composite brand loyalty has no positively significant influences on word-of-mouth.

   H_{8a}: The higher the behavioral brand loyalty is, the greater the propensity of disseminating positive word-of-mouth.

   H_{8b}: The higher the attitudinal brand loyalty is, the greater the propensity of disseminating positive word-of-mouth.

   H_{8c}: The higher the composite brand loyalty is, the greater the propensity of disseminating positive word-of-mouth.

A negative and insignificant relationship was found between behavioral brand loyalty and word-of-mouth (the unstandardized estimate=-0.122, p=0.153). A positive and insignificant association was also observed between attitudinal brand loyalty and word-of-mouth (the unstandardized estimate=0.082, p=0.419). As same as purchase intention, word-of-mouth was found being positively influenced by composite brand loyalty at the p<0.001 level (the unstandardized estimate=0.458, p=0.000). Therefore, the null hypothesis H8 was rejected and supports was found for the alternative hypothesis H8c, which was the higher the composite brand loyalty, the greater the word-of-mouth.

The above results provided the information that all of three brand loyalties did not serve as a mediator between social value and purchase intention and between social value and word-of-mouth. However, the additional paths in the modified model, the effect of social effect on word-of-mouth, showed a positive significance (the unstandardized estimate=0.523, p=0.000) at the p<0.001 level. Thus, social value did not directly or indirectly produce any effect on purchase intention, but had a direct effect on word-of-mouth.

In addition, based on the Hypothesis 2c and Hypothesis 7c, the path estimates showed that composite brand loyalty was an important mediator between functional value and purchase intention. By the same token, composite brand loyalty also mediated the relationship between epistemic value and purchase intention, according to Hypothesis 5c and Hypothesis 7c. Similar to Hypothesis 7c, Hypothesis 8c contributed the mediating effect to the relationship between functional value and word-of-mouth and between epistemic value and word-of-mouth, based on the findings from Hypothesis 2c, Hypothesis 5c, and Hypothesis 7c.

Conclusion

This study provided empirical evidence in the mobile phone industry. Based on the aforementioned discussion, the findings of this study can be summarized as: (a) The underlying structure of brand loyalty had been confirmed. Therefore, behavioral brand loyalty, attitudinal brand loyalty, and composite brand loyalty ought to be measured simultaneously in the mobile phone industry; (2) of the antecedents of brand loyalty, only two perceived values (functional value and epistemic value) had a positively significant association with three brand loyalties (behavioral brand loyalty, attitudinal brand loyalty, and composite brand loyalty), (3) there was a positively significant relationship between composite brand loyalty and the consequences of brand loyalty (purchase intention and word-of-mouth); (4) only composite brand loyalty served as a mediator between the antecedents and consequences of brand loyalty.

References

Gounaris, S. & Stathakopoulos, V. (2004). Antecedents and consequences of brand loyalty: An empirical study. Journal of Brand Management, 11(4), 283.

Jacoby, J., & Chestnut, R. (1978). Brand loyalty: Measurement and management. New York, NY: John Wiley and Sons.

Lau, G. T. & Lee, S. H. (1999). Consumers' trust in a brand and the link to brand loyalty. Journal of Marketing, 4(4), 341.

Lo, S. (2012). Consumer decisions: The effect of word-of-mouth. International Journal of Organizational Innovation, 4(3), 88-196.

Porral, C., Bourgault, N., & Dopico, D. (2013). Brewing the recipe for beer brand equity. European Research Studies, 16 (2), 82-97.

Sheth, J. N., Newman, B. I., and Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. Journal of Business Research, 22, 159-170.

Sweeney, J. C., & Soutar, G. N. (2001). Consumer-perceived value: The development of a multiple-item scale. Journal of Retailing, 77(2), 203-220.

Tranberg, H. & Hansen, E. (1986). Patterns of brand loyalty: Their determinants and their role for leading brands. European Journal of Marketing, 20, 81.

Tu, Y., Li, M., & Chih, H. (2013). An empirical study of coporate brand image, customer perceived value and satisfaction on loyalty in shoe industry. Journal of Economics and Behavioral Studies, 5 (7), 469-483.

Wang, Y., Lo, H. P., Chi, R., & Yang, Y. (2004). An integrated framework for customer value and customer-relationship-management performance: A customer-based perspective from China. Managing Service Quality, 14(2/3), 169.

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Teachers-Students through the Formation in Parfor, Dialogues and Movements of Theirselves

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Abstract
This study aims to analyze the positions of "I-voices" and movements throughout a training process offered by the Plano Nacional da Formação de Professores da Educação Básica (PARFOR) (National Plan of Basic Education Teachers Formation) at Serrinha, Bahia, Brazil. The research was based on the theoretical and methodological framework of the dialogical self of Hermans et al (1992), Hermans, Hermans Konopka (2010), Bakhtin (2010), Salgado et al (2007), and Valsiner (2012). Ten teachers-students were interviewed using a qualitative research study of multiple cases. The techniques of data collection were mapped as a dialogical self, with narrative interviews and diagrams of I-positions. The analysis of the I-voices and dialogues resulted into the following categories: I-mother ←→ I-wife; I-teacher ←→ I-student; support ←→no support; explicit curriculum ←→ experiencied curriculum; family expectations ←→ valorization of education. The "I-positions dialogues" highlighted tensions and ambiguities that characterized the experiences during the formation of PARFOR. To cope with the challenge of teaching, learning and giving support to their family's needs at the same time, the teachers-students showed a perception of incompleteness, the need for new knowledge and investment in new formations. In doing so, they may arrive to educational levels previously unimaginable.

Keywords: Dialogues. Movements. Selves. Teachers-students.

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Introduction

The present work is based on the thesis "Between cocoon and wing: dialogues and movements of the selves from Teachers-students through the formation in PARFOR", which title makes reference to a metaphor: "Between cocoon and wing", a phrase that one of the Teachers-students interviewed for the study used to describe how she felt through the formation process.

The National Plan of Basic Education Teachers Formation (PARFOR) is a program developed from the federal government of Brazil, that offers formation to teachers from public schools of Basic Education, in order to enable them to achieve the graduation degree. This Formation Program is divided in four steps: 1. choose of the graduation course and registration; 2. the municipal secretary validates the registration; 3. public universities or faculties organize and provide the courses; 4. the Brazilian Federal Agency for the Support and Evaluation of Graduate Education (CAPES) coordinates and evaluates the quality of the program.

The PARFOR was a result from the Decree n. 6755, from 29th Februar 2009, item 3 of Article 11, that institutes the creation of graduation courses or special programs to teachers, who work at leat 3 years in public schools of Basic Education without graduation or with graduation in a different area.

In Bahia (one of Brazilians states), the Universidade do Estado da Bahia (UNEB) and the Institution Anísio Teixeira (IAT) are the responsible ones for the Administration, organization and execution of the PARFOR, offering graduation courses from Biology, Physics, Mathematics, Computation, Fitness, Geography, History, Arts, Chemical, Sociology, Portuguese and Pedagogy to this Program.

The students of PARFOR are referred as teachers-students because they are "parallel to the formation, also teachers from public schools in the municipal and state net of Basic Education" (PARFOR Political Pedagogical Project , 2013, 62). So the term teacher-student is used to express the specific situation of the participants of the Program.

Method

The method of the research was based in the concept of qualitative research study of multiple cases, that can solve many particular questions in the social sciences (Minayo,2000). Working differently as the quantification process, this technique with a world of signification, motives, wishes, faith, values and attitudes, in other words the space of the relationships, processes and phenomena that can not be quantified. In this study is always intended to capture the participant's perspective, that is the way they see the questions(LÜDKE; ANDRÉ, 1986, p. 12).

The study of multiple cases highlights the natural complexity of the situations, showing the relation between their components and emphasizing the understanding from the people, that are involved in these cases. This concept of research has also basis in the principle that the knowledge can always develop, what is important in the context of this study, that aims to understand the dialogues and movements from the selves of Teachers-students through the training in PARFOR.

In this context the narratives interviews showed to be an appropriate technique from data collection. From the narrative interviews I-positions diagrams for each teacher-student and a synthese were produced based on Hermans (2010).

As technique of data collection was also applied the dialogical self map, a method based on *Family Circles Method* (FCM), that allows the participants to illustrate a representation of their personal lives, the bounds and spaces, close relatives and the distance of their relationships (CHAUDHARY; SHARMA, 2008). In the first moment the participants are asked to draw a circle, which represents their selves and then they are invited to illustrate the significant other. The distance between the circles and their places are determinated from the participant.

In this study each teacher-student mapped their self in three different time perspectives, one of five years before that moment, one of the present and one of five years in the future.

Participants

Ten teachers-students were recruited as participants of the research, all of them were women, with children and students of Pedagogy in PARFOR at Serrinha-Bahia. They received fictional names, as showed in table 1:

NAME	AGE	YEARS WORKING AS A TEACHER	WORKING HOURS	MARITAL STATUS	NUMBER OF CHILDREN
Patrícia	37	4 years	40 hours	Married	4
Ivonilde	40	21 years	40 hours	Married	3
Elisete	28	6 years	40 hours	Married	2
Rita	34	12 years	40 hours	Married	3
Geisa	34	9 years	40 hours	Married	2
Vilara	43	6 years	40 hours	Married	2
Silvia	38	6 years	40 hours	Married	1
Janete	32	7 years	40 hours	Married	2
Cenilza	33	7 years	40 hours	Married	1
Ana	39	14 years	40 hours	Married	2

Table 1: Characterization of the participants

Dialogical Self theory

The Dialogical Self theory is based on a group of studies from Hermans et al (1992) about self and narratives, which were inspired in the self theory from William James (1890) and Bakhtin's (1984;2010) polyphonic novels, that is a feature of narrative able to represent many points of view and multiple voices.

James' studies created a first understanding about the divisible structure of self to psychology, in his point of view the self could be described in four different parts: material self, social self, spiritual self and pure ego, from those the three first ones were directly related to the empiric life.

The material self involves from the body structure until the properties of someone. The social self is related to the images that the others relate to the person, that shows how the people around one recognize him in the society. This perception from the others about the one can also interfere on his own emotional perception of himself. The spiritual self is made of the psychic abilities related to the person. The pure ego is referred to the sense of sameness, this is the sense of the personal identity. So this forth part of the self is the "I" that knows and the other parts are the "me" , that is known. It is possible to conclude from James' studies, that in the self exists an distinction between "I" and "me", what highlights the continuity principal from the self experience.

With the basis from James' studies (1890) Hermans and Hermans-Konopka(2010) discuss that this conception of the self is an inspiration to study it in the interface from psychology and philosophy. In James' analysis were also introduced concepts like "appropriation" and "repudiation" , that are important when the self decides which parts must be accepted or rejected. In this case the thought is the agent with the knowledge as well as the power to choose. The consequence is that everything becomes a process of appropriation or repudiation of the self.

Bakhtin is a very important self theorist, as his dialogical perception in his work made it possible to comprehend that the human personality is not restricted to an unique centre (SALGADO et al, 2007, 18), but really a result of dialogical processes between "author" and "actor". In Bakhtin's theory of polyphonic novels, the polyphony itself is based on the creation of different voices, each expressing an influence on the relationship and commitment to life and society.

Analysis of the dialogues

The analysis of the interviews, mapped selves and diagrams of I-positions resulted into the following categories: I-mother ←→ I-wife; I-teacher ←→ I-student; support ←→no support; explicit curriculum ←→ experiencied curriculum; family expectations ←→ valorization of education. Each one of them was discussed in order to better understand how this positions dialogues.

I-mother←→I-wife

The journey as mother-wife is revealed from the teachers-students as really difficult, as they must plan their time to take care of their families and household, they all made

clear that the support of their husbands was essential to a good management of their time. The situation was especially hard to Patricia, who does not receive any help from her husband and should take care of the children and house by her own.

The narratives also showed that the concepts of "take care of children and house" are seemed from the teachers-students as a responsibility of the woman and the husbands are quoted only as someone to help, as exemplified from the Teacher-student Cenilza "As a mother I take my responsability [...] when I arrive at home if that is time I cook, if not I say: 'Make something for us to eat' and he husband) makes." (Teacher-student Cenilzas).

The use of the word "help" reveals that for the teachers-students the husbands have no obligation to collaborate with the household, that is a consequence of the conception of family in their culture. Valsiner (2012, 23) defends that culture is treated as one inherent, systemic organizer of the psychological systems from the individual and cultural tools are brought to the subjective personal world, where they singularly change the subjective.

Although the help of the husbands they will to be able to handle everything, in order to be an example from strong woman to their children. In this context they feel guilty when they don't have the time to be with their kids.

Be a mother is a very hard work, because we must be [...] prepared to everything. Be there when needed, raising a child in the better way possible and when you're also a student that is complicated even more so because in the weekends, the time I used to be with them, I'm here in the training" (Teacher-student Rita)

It is possible to realize that is a tension between the will to be with the family and the commitment to study. As a consequence outer and inner voices are created to help the teachers-students to cope with the difficulties and keep at their studies. As the teacher-student Patricia exemplifies: "sometimes my second daughter say to me: 'No mom, don't give up!' [...] and nowadays I'm surer about what I want to do, I don't think about giving up". Based on Valsiner (2012) it is possible to conclude that real and imaginary voices emerge in internal and external dimensions and are able to conduce to a positioning.

Hermans (2004, 13) affirms that different parts of the self are not only involved in communicative exchanges, but are also under relative dominance, with some parts being more powerful or speaking louder than other parts. In this sense, the caring mother position is highlighted as a motivation to the improvement of their professional and academic life, in order to provide better conditions for their children. Also emerges a tension to keep the family together. In this scenario, the wife condition moves ambiguously to the denial process (two collaborators) and spouse support (eight collaborators) on the achievements. This aspect is directly related to the ways selves internalize the social structure of be a wife, be a husband, the power relations and the need for freedom in the complex relationship between husband and wife.

To Valsiner (2012,143) the most complex cultural concept is probably the notion of Family and marriage. The people are involved in these relationships and these social roles, that imply a hard work and adaptations to the social expectations.

As stated Zittoun (2009) in life, people are confronted with significant redefinition of their identities, involving changes in the body of knowledge and expertise in your workspace or in your everyday life. They live in a plurality of experiences balls, which require them to master different social routines and types of activity, belonging to a complex system. With the multiplication of transitions of life experienced by people, the relationship between these multiple levels of experience should also vary: some experience can be reduced in importance, while others become dominant at certain times. In all these cases, people have to define your own values and actions systems in a complex world.

I-teacher ←→ I-student

The ten participants indicated that the dialogue between the I- teacher←→ I-student caused changes in their praxis, especially in their professional qualifications, methodology, the practice in the classroom, their point of view about the student reality.

The way of working in school, the methodology that we used at school, the resources we used, all changed, because in the past we taught only using the board and stuff. Today we see that is not enough, then I have changed a lot and the training helped a lot, because the readings helped to understand that (teacher-student Elisete).

The research participants' statements reveal the movements and dialogues between I-student←→I-teacher, describing the achievements that began to echo in their work from the training in PARFOR. As Valsiner (2012,109) defends, humans are not injunctions only in terms of their membership in groups, communities and societies; they are also injunctions in relation to its own course of life. Faced with this assertion, the present in a person's life sets in a border or from our personal past toward the future contained therein and the infinitely small moment of this is inevitable bounder to be cross - only to be inevitable redone in a new form (Valsiner, 2012, 109-110).

These dialogic positions about I-teacher are softly related to I-student dialogues. Many of the teacher-students report having shyness and fear at public presentations. Therefore, the break of this fear , that followed them during their school time, are also an opportunity provided during the training in PARFOR . Thus, is, as stated Zittoun (2009), a call for new ideas, new solutions, or new ways of acting or thinking. If life always requires regular changes as a transitive process, a break calls for deeper substantive changes. In this sense, a break is a catalyst for intransitive change. In the development perspective, such changes followed by intransitive breaks are of great interest, it is they who provide the appeal by the what is new and the context in which it can emerge as to Zittoun (2003), a flexible space is required to change and a "good enough change" must be found between keeping the past and create somenting new, which requires probably a lot of trial and error, and needs time and space.

Another relevant point in the relations of the teachers-students is related to the infrastructure offered by the university to students PARFOR, since according to the following reports, it is an evident discomfort in space where happen classes.

As a student, I can see differences in university, because when we come to campus, we hear the comment, 'Oh, because they are PARFOR students ', we feel a bit lower than the regular students. Even the space in which we study, it was supposed to be a more welcoming place, because it is difficult for us to spend all day in that hot room, too hot, you know? Sometimes it comes to be so unbearable. And also there is no library in the space of our course. (Teacher-student Patricia)

This narrative makes reference to the sense of appreciation of the self on the other. According to Bakhtin (cited by Hermans, 1999), in the relationship between I - Other (real) something new is created. As a consequence from the contact with the otherness of the other emerges a need to build a common ground. In the case of the teachers-students they would like to have access to the same infrastructural conditions from the regular classes of UNEB. Thus, they reveal that, because it is a university, these differences should not exist.

This effort for co-construction of meanings introduces a zone of tensional difference and potential development that would not be possible to achieve in isolation (Hermans, 1999). From this understanding, the tension provoked from the difference is more contrasting and more radical and potentially more innovator.

The teachers-students' feelings about the difference between them and the regular students of the University is also in line with Hermans and Hermans-Konopka (2010, 41) when the authors consider that the dimension of social power affects the self dynamics. In this sense, the self is understood in its social dimension, not limited to the individual and psychological dimension; he is seemed as a social phenomenon where concepts, images and understandings are deeply determined by power relations.

Support ←→ No support

The dialogues between the positions support←→no support follow a motion logic of dynamic interaction with each other, where there are always processes of organization and reorganization. To Salgado et al (2007, 16), all process of creating meaning and construction of personal existence can be described through a continuous process of identifying and rebuilding itself. Indeed, these processes only become possible through the continuous tension established in the dialogic relationship with the Other.

The dialogues between support←→no support can be consequences of the contributions from external voices supporting. The support of the other is felt from the teachers-students in the relationship with significant others, as PARFOR teachers, colleagues, family, which show relevant support and influences the reconstruction of meaning by the participants.

First my parents always have supported me and talking to me that they are sure that I am able to go ahead, that I should not stop there, they always have supported me. My children also always gave me such support. And my husband sometimes talks to me,that I already have a work, what I want studying, so it's a thing a little bit complicated.[…] First my parents, my brothers and some friends. I tell some friends because that is this girl at the work, who gave me the greatest support to not give up. I'm here and I just have to thank to her and to God also for the opportunity. (Teacher-student Rita).

These voices echo as a motivation to continue, but the students-teachers also explain that besides the positive words there is a great incentive for being a student and to continue in the profession means also the construction of knowledge in training. So there is an internal motivation that make them go ahead.

According to James' conception of self, it is emphasized that the existence of differences in self does not deny in any way the existence of unity and continuity. As James assumes that the appropriation process brings unity and continuity to the self, it is assumed that the appropriation itself creates unity and continuity in a self that is spatially and temporarily "distributed".

Nevertheless, another special component in the dialogues of support←→no support it is the faith, that is also seemed as a support voice quoted from the particpants of the research. It appears as a motor force of inner voices, which encourage them to continue the fight against the daily obstacles, beyond to provide audiences with their selves in order to make the decision to continue the training. As explained from the teacher-student Geisa: "To God. God, who gives me strength. I pray always, every day, 'My God, give me strength or I'll give up. I will not endure. '"

Faith comes as a cooperative element in the processes of analogy between multiplicity, contradiction and polyphony, which are nothing more than an admirable complex and experimentally an important way of understanding how the reflective and non-reflective capabilities can interact in a contemporary self that are constantly seeking to establish the truth and continuity, along with other processes of numerous complex shapes. Thus, in the context of a pluralized self, the need for faith is defend as a persistent factor in the achievement of self-identity (Adams, 2004). This is evident in the words of the teachers-students when they attribute to God the guiding force to reach its destination identity through the training, considering that in this context there is also inner voices of difficulties, but through faith new voices emerge and voices of no support become weaker in the self.

It was noticed in the statements of the participants that the voices of no support enable a process of self-audience with their selves what achieves a positioning in face of the conflicts and tensions generated by these voices, that come from different contexts, which can agree with the decisions made by the teachers –students, that recognize the importance of the training on their personal and professional life, or even guide to a different behavior with the responsible of generate this voice, depending on what emerges from the internal audience. So at certain times such voices end up being dominant or overlapping the voices of support.

Thus, the dialogical relations between the positions of no support show a constant process of negotiation, cooperation, conflict and consensus leading them to a continuous movement of positioning and repositioning

However, for Hermans and Hermans Konopka (2010) the conflicting voice can be silenced only for a while, because it can not be entirely deleted in the self. Emotionally charged as this voice is, it can be taken out of focus, but not deleted from the self forever. At any time it can become prominent again, depending on the situation or spontaneous fluctuations in the self. These internal conflicts and periods of instability become less intense when one of those voices becomes permanently dominant over the other or when two voices find a common ground of agreement.

Explicit curriculum ⟵⟶ Experienced curriculum

The dialogues between explicit curriculum⟵⟶ experienced curriculum are the movements generated for the relation between what the teachers-students understood and experienced in the training in PARFOR and what is scheduled for the Pedagogy graduate degree in PARFOR.

In this case it is important to highlight the stories of teachers-students about what is explicit and experienced in the Pedagogy course. Initially it is confirmed with the statements of the participants, that the disciplines from the course curriculum enable to acquire an important knowledge that can be applied in their classrooms. The teachers-students affirmed that there are many possibilities of didactic transpositions, that is, they can apply in their praxis what they learned in the formation process.

All courses we've had so far, I say for me, were very satisfactory even though somethings that happened, but most are all new thing that I have not seen, I do not experienced when I studied in high school. So it's a new thing, so for me it was rewarding [...] Instead of being four days with weekends, it would be four days in the month in the morning. On Friday instead of coming to college we would going to schools with each their coordinators to plan their lessons because then you would have the weekend to organize college work and some other things that stay pending in Friday the meeting. I grew. Holy Mary! Changed. I mean today through methodologies that teachers work with us. So I always try to go and work in the classroom to see what the reaction and the change that the students will have. (Teacher-student Cenilza).

However, in the narrative below it's possible to see a different a different point of view about the relationship of the explicit curriculum and experienced curriculum.

So when I came here, I thought that we would get something more specific to the classroom. For example, how to work with Early Childhood Education? ... Students with learning disabilities in reading, for example, how to work? But so I do not know if it's also my knowledge is little, my culture, I do not know. But I think it should work more focused on the things of the classroom ... (Teacher-student Ana).

In addition to the feedback about the difficulties of dialogue between theory and practice, it also noticed that they are not satisfied with the course workload, which takes place from Friday to Monday without considering the reality of the teachers-stdents, that workforty hours a week .

So it was possible to conclude is still a gap between the said(explcit curriculum) and the effected(experienced curriculum).

Family expectations ← → Valorization of education

The positions in dialogic self theory are understood as flexible and dynamic, as results of endless negotiation process between internal and external voices involving different characters in dialogues with the I-author. Thus, the dialogue between the Family expectations ← → Valorization of education is explicit in the following narrative.

They think that I'm going to become a better teacher even at the level of salary. They have even argued; you're doing it, but it will increase the salary, will increase all [...] I saw that this course gives me the support I need. (Teacher-student Elisete).

It is noticed that there is a huge financial expectation from their families while the teacher-student has a point of view beyond the economic issue, focusing their aspirations also in professional qualification. These positions emerge on expectations that fed back into the personal and the social. According to Hermans (2001, 263), social positions are governed and organized by social definitions, expectations and prescriptions, while personal positions receive their shape from specific ways in which people organize their lives. Although the way chosen by the 'I' to manage your life can often set up an opposition or a protest against social expectations.

The valorization or expectation of this valorization are endorsed by the student-teachersteachers-students Vilara, Rita and Ivonilde, in face of the changes they feel in dealing with students in the context of the classroom, in a work promotion, and also the proud to be part of the UNEB context because this fact influence significantly in the school context. In this scenario, Bakhtin's (2006) concept of polyphony emerges as important in this dialogue in face of the important trilogy (I-to-me, I-for-others and the-other-for-me). That is to say how satisfied these teachers-students are about the external voices that confirm the importance of training, even considering that staying the course difficult weekend meetings with family members.

Conclusion

The analyses followed from the narratives of mapped self, diagrams of I-positions and the interviews showed a strong effort of negotiation and conflicts between the I-voices, so much as the positions and repositions from those. All these processes are consequence of the dynamic principle of self and enable a transformation of the concept of being in the world. Internal and external dialogues are continuously established, what results in new concepts and qualifies the training in PARFOR.

It was clear that the ambiguity is present in all the routine roles of the teachers-students' selves. As an example, the support voices can minimize or even silence the no support voices. On the other hand there are also moments, in which the no support voices cause or even are created by the self-critic process itself. Such behavior craves self-audiences to avoid that this process turns into a non-adaptive one and causes a self-placement of the I-position against the daily chores and the keeping of the formation process in PARFOR.

Besides it, the analyze also indicated that the training was able to modify the routine of the teachers-students and as consequence their relationships with outer others turned different too. As an example, because of the formation the time and the relationship with the husband and the children had changed for them. To deal with this new scenario they had to defend their will to continue in the formation and make self-consultancies to be sure of their choice from keep the training.

Given the revelations made by the teachers-students about the field of training, it can be seen that the dialogical processes between the I-positions are not easy, especially when it comes to finding motivation to follow through with the studies, notably to those teachers-students coming from the countryside (four). They described the difficulties faced along the way to the University, due to lack of regular transport, a situation that forces them to wake up at four in the morning to take care of their children, housework and to cook before go to the class. At that moment, their narratives explain a mix of pain and courage, attitudes that are stimulated from the external voices of support, that came from the family, colleagues, spouses and faith. These are internalized and can generate an internal mobilization to sustain resilient attitudes to face the difficulties.

In regards to the bad work conditions, exemplified by the terrible public transportations available to the university or the little to no necessary school material given to the teacher-students, some of the students take these responsibilities on themselves and go as far as taking money away from their own salary to buy the missing equipment or pay for room renovations. The matter is though neglected by the head of the program over the necessity to accomplish pedagogic results on the program.

So it was possible to conclude that even though the PARFOR training process changed the praxis of the teachers-students and made they think about the possibility to invest in new formations, that are many infrastructural and political problems in the Program, that should be attended from the head of PARFOR in order to improve the process of learning.

References

ADAMS, M.(2004). Whatever will be, will be: Trust, fate and the reflexive self. Culture and Psychology, 10, 387-408.

ANDRÉ, M. E. D. A., & LUDKE, M.(1986). Pesquisa em Educação: abordagens qualitativas. São Paulo: EPU.

BAHIA.Universidade do Estado da Bahia (2013). Projeto Político Pedagógico. Salvador.

BAKHTIN, M. M. (2006). Marxismos e filosofia da linguagem: problemas fundamentais do método sociológico na ciência da linguagem. São Paulo: HUCITEC.

BRASIL, Ministério da Educação (1996). Lei n. 9.394, de 20 de dezembro de 1996. Dispõe As Diretrizes e Bases da Educação Nacional. Brasília.

BRASIL, Ministério da Educação(2007). Decreto nº 6.094 de 24 de abril de 2007. Dispõe sobre a implementação do Plano de Metas Compromisso Todos pela Educação. Brasília.

BRASIL, Política Nacional de Formação dos Profissionais do Magistério e regulamenta a ação da CAPES (2009). Decreto 6.755 de 19 de janeiro de 2009. Brasília.

HERMANS, H. J. M (2001). The dialogical self: Toward a theory of personal and cultural positioning. Culture & Psychology, 7, 243-281.

HERMANS, H. J.M., & HERMANS-KONOPKA, A. (2010). Dialogical Self Theory: positioning and counter-Positioning in a globalizing society. Cambrindge: University Press.

HERMANS, H.J.M (1999). Dialogical thinking and self-innovation. Culture and Psychology, 5, 67-87.

LYSAKER, J. I am not what I seem to be. International Journal for Dialogical Science, 2006.

MINAYO, M. C. S(2000). O desafio do conhecimento: pesquisa qualitativa em saúde. 11. ed. São Paulo: Hucitec.

SALGADO, J. et al(2007). Self dialógico: um convite a uma abordagem alternativa ao problema da identidade pessoal. Revista INTERACÇÕES, Portugal, 6,.8-31.

VALSINER, J.(2012). Fundamentos da Psicologia Cultural: mundos da mente, mundos da vida. Translation and review: Ana Cecília Bastos. Porto Alegre.

VELHO, L., & LEON, E. (1998). A construção social da produção científica por mulheres. Cadernos Pagu, 309-344.

ZITTOUN, T. & GROSSEN, M. (2009). Cultural elements as means of constructing the continuitty of the across various spheres of experience. In: CÉSAR, M. & LIGORIO, B. (eds). The interplays between dialogical learning and dialogical self. Charlotte:InfoAge.

ZITTOUN, T. (2003). Competencies for development transitions: the case of the choice of first names. Culture and Psychology, 10(2), 131-136. Retrived from: http://www.periodicos.capes.gov.br/portugues/index.jsp.

ZITTOUN, T. (2009). Dynamics of life-course transitions: a methodological reflection.In: Dynamic process methodology in the social and developmental sciences. 405-429.

An Investigation into the Use of Internet Pornography Among Young Internet Users in Singapore

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Abstract
Introduction:
The present study investigated the patterns and motivations of internet pornography use among young internet users in Singapore. Specifically, it was hypothesized that males would show (a) greater prevalence, (b) earlier age of exposure, (c) more frequent viewing, (d) more deviant usage, and (e) more sexual activities accompanying the use of pornography. Furthermore, (f) sexual curiosity would be the most common reason for initial use of internet pornography. **Method:** Participants comprised of 283 undergraduates (132 males), aged 18-26 years, from the three public universities in Singapore. They completed an online self-report of their initial and recent internet pornography use patterns and motivations. The categorical data were presented in percentages and gender differences were analysed using the Mann-Whitney-U-Test (Mann & Whitney, 1947). **Result:** Our profile of internet pornography use found support for four out of six of our hypotheses. Gender differences were observed in the prevalence, age of exposure and frequency of internet pornography use, and sexual curiosity was the most common reason cited for initial exposure to internet pornography. Implications of the profile on the maintenance of internet pornography use and the need to promote appropriate channels of sexual discussions were discussed and recommendations were made to promote more effective management of pornography use among young internet users in Singapore.

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Introduction

Research on pornography is replete with evidences of its harmful effects. In areas of sexual offending, pornography use has been identified as a risk factor regardless of the offender's recidivism risk level (Kingston et al., 2008). Studies among sexual offenders have found pornography use motivating sexual offending behaviour through the distortion of sexual realities (Eldridge, 2000; Marshall, 2000; Print & Morrison, 2000) and reduction in empathy towards victims of sexual aggression (Allen, D'Alessio, & Brezgel, 1995). Furthermore, studies among non-offenders have reported the disinhibition of sexual offending behaviours through pornography's association with the increased acceptance of sexual harassment (Bonino, Ciairano, Rabaglietti, & Cattelino, 2006) and promotion of sexual aggression (Malamuth N. M., 2003; Vega & Malamuth, 2007). Additionally, pornography use has been suggested to negatively impact sexual relationships. And studies of non-offenders reported evidences of its associations with poorer relationship quality (Stewart & Szymanski, 2012) and more sexually permissive attitudes and behaviour (Carroll et al., 2008; Lo & Wei, 2005; Peter & Valkenburg, 2008; Rogala & Tyden, 2003).

Despite its harmful effects, pornography use remains prevalent around the world and distinct gender differences were reported across its patterns of use. For instance, among 813 American college students, 87% of male and 31% of female reported using pornography (Carroll et al., 2008). Males also reported using pornography on a monthly to weekly basis while females, yearly to monthly (Carroll et al., 2008). Boies (2002) also reported similar patterns of gender differences in his sample of 760 Canadian college students with prevalence among 72% of males and 24% of females. In addition, sexual reasons like sexual arousal and sexual curiosity were most prevalent motivations for college students' pornography use (Boies, 2002).

However, little is still understood about pornography use in Singapore. Our review of the literature only returned two studies. Choi (2008) reported that 15% of 526 respondents aged 13 years used the Internet to look for websites with sexual content while a survey by Touch Cyber Wellness revealed that 50% of 836 Singaporean youths aged 13 to 15 years had exposure to internet pornography (Tai, 2014). Nevertheless, the findings suggest the limited effectiveness of present regulations restricting access to and possession of pornographic materials (e.g. Penal Code, 2008; MDA, 2013). Hence, to better influence legal and social decisions, it is paramount for research to inform on the patterns and motivations of pornography use in Singapore.

Present Study

This paper aims to investigate the patterns and motivations of pornography use in Singapore. Pornography was defined as "sexually explicit media designed to sexually arouse the consumer" (Vega & Malamuth, 2007). The patterns of use were explored in terms of its prevalence, use of deviant genres, age of exposure, frequency of use, and accompanied sexual activities. Comparisons between genders were made and participants' motivations to use pornography were further investigated.

H1: More males would report exposure to internet pornography than females
H2: More males would report exposure to deviant pornographic genres than females
H3: Males start viewing pornography at an earlier age than females
H4: Males view pornography on a more frequent basis than females
H5: Males would report more sexual activities accompanying their use of pornography than females
H6: Sexual curiosity would be the most cited reason for the use of pornography

Method

Sample

The sample consisted of 292 Singaporean undergraduates from the three public universities and were aged 18 to 26 years. Most participants (68.5%) were recruited through the National University of Singapore's research participant pool while the remaining 31.5% were through social media sites. For their participation in the study, those from the research participant pool were awarded extra credit points in their undergraduate psychology courses. No incentives were provided for the other participants.

Procedure

A self-administered questionnaire format was adopted for the present study. Information on participant's (a) exposure to deviant and non-deviant pornography, (b) education age during first exposure, (c) reasons for first exposure, (d) frequency of recent pornography use, and (e) sexual activities accompanying pornography use were collected. Deviant pornography was defined in the study as child and violent pornography. And sexual activities accompanying pornography were responded based on the categories: doing nothing, masturbation, sex with a consenting partner, others. The 33-item Marlowe-Crowne Social Desirability Scale was also included in the study to examine the influence of social desirability bias on the self-reported scores. Items 3, 5, 6, 9 10, 11, 12, 15, 19, 22, 23, 28, 30 and 32 were reverse coded and a total social desirability score was computed.

Results

Demographics

Nine participants were removed due to incomplete data. The final sample of 283 participants comprised 92.6% (262) Chinese, 2.1% (6) Malay, 3.2% (9) Indian, 2.1% (6) others. Gender distribution of the sample was 46.6% (132) males, 53.4% (151) females. Mean age for males was 22.0 years old (SD = 1.54) and for females, 19.7 years old (SD = 1.36).

Social Desirability

No evidence of social desirability bias was obtained. A two-tailed independent samples t-test found differences in social desirability scores between participants who have and have not been exposed to internet pornography to be non-significant (t (281) = -.866, $p >$ .05). Spearman's rho correlation coefficient also revealed non-significant correlations between social desirability scores and the frequency of the recent use of internet pornography ($rs =$ .005, $p >$ .05). Hence, participants did not respond in a socially desirable manner.

Analysis of Dataset

The patterns of pornography use were analysed for genders differences. As the data in the present study were categorical in nature, findings were presented in percentages and analysed using a non-parametric test, the Mann-Whitney-U-Test (Mann & Whitney, 1947).

Patterns of Pornography use

Exposure to internet pornography was reported by 55.6% of participants. This was more prevalent among male participants with 87.1% of males reporting exposure compared to 28.5% of females, supporting our first hypothesis.

The distribution of participants' age of exposure across gender shown in figure 1 indicates that the majority of male pornography users (53.9%) were first exposed in their lower secondary education, while females were divided between lower secondary (34.9%) and pre-university or polytechnic (39.5%). The Mann-Whitney-U-Test found education age during first exposure to pornography significantly different across the genders (U = 1879, $p =$ .01), with males reported earlier exposure (Mdn = lower secondary) than females (Mdn = pre-university/polytechnic). This finding was in support of our third hypothesis
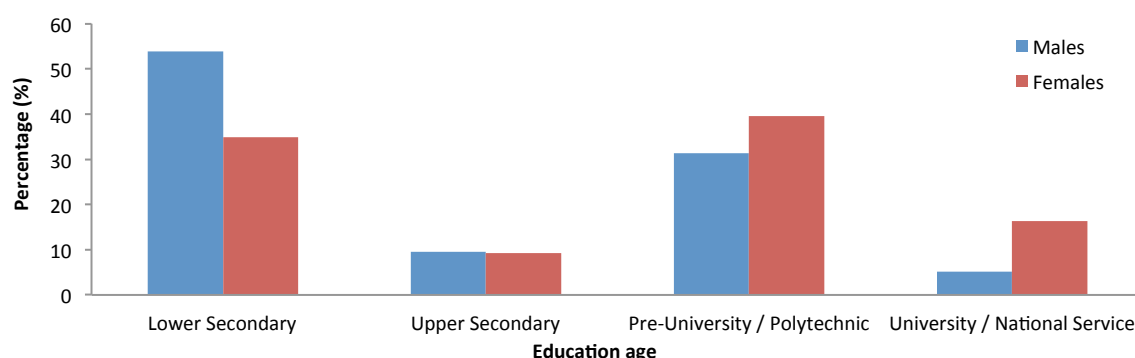

Figure 1. Education age during first exposure for male and female pornography users

Following their initial exposure to pornography, most males (93.0%) and females (76.7%) continued to view its contents in the past 1 to 2 years, with a frequency ranging from daily to yearly. Figure 2 shows the distribution of participants' frequency of pornography use across gender. Support was found for our fourth hypothesis with significant differences between the genders in frequency of recent use of internet pornography (U = 1288, $p < .001$). Males displayed significantly higher frequencies of recent internet pornography use (Mdn = weekly) than females (Mdn = yearly).
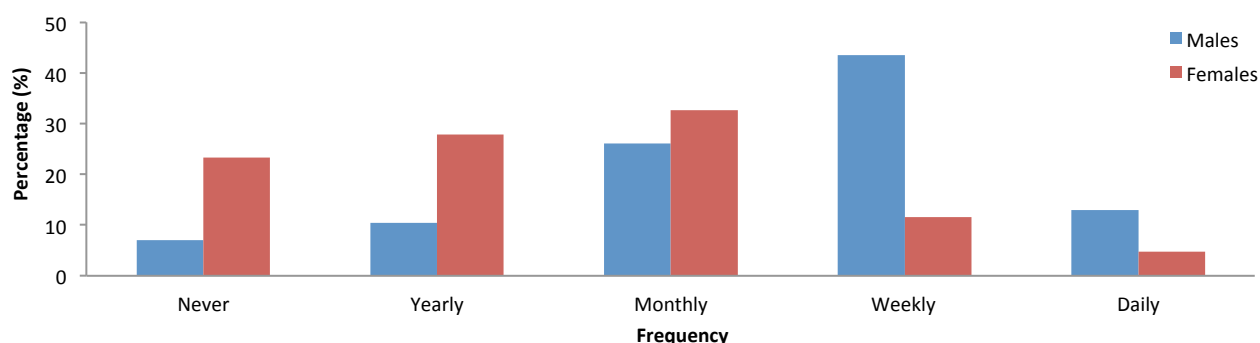

Figure 2. Frequency of recent use among male and female pornography users

Interestingly, gender differences were less apparent in terms of exposure to deviant pornographic genres. Among pornography users, 44.3% of males and 39.5% of females reported deviant exposure. Gender differences in sexual activities accompanying the use of pornography were also not significant. Figure 3 shows the distribution of sexual activities and apart from doing nothing (U = 6380.50, $p = .004$), the likelihood of engaging in masturbation (U = 6983, $p = .152$), consensual sex (U = 7330, $p = .243$) and acting out in other ways (U = 7578.50, $p = .374$) were not significantly different across gender. Thus, our second and fifth hypotheses were not supported.
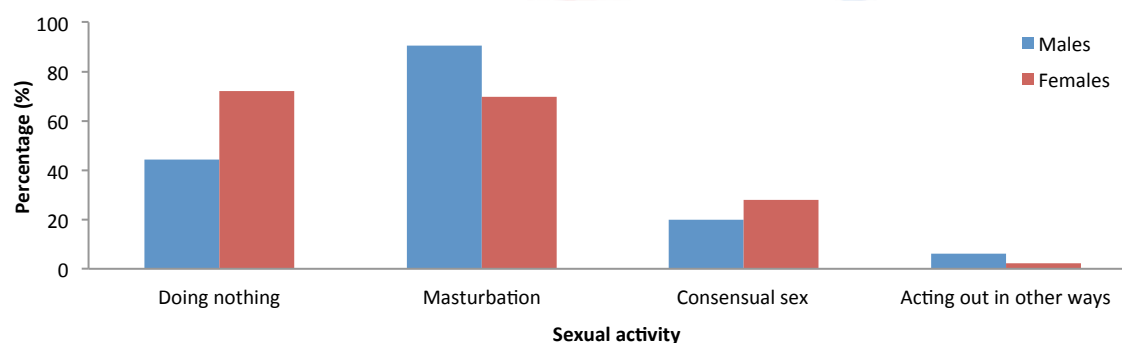

Figure 3. Sexual activities among male and female users accompanying their pornography use

Motivations for Pornography use

A total of 174 reasons for initial exposure to pornography were extracted and coded into the following categories: out of boredom, by chance, sexual curiosity, sexual desire, entertainment, stress relief, peer influence, and sexual knowledge. The distribution of participants' reasons for initial exposure is shown in Figure 4. Consistent with our sixth hypothesis, majority of our participants (65.2%) cited sexual curiosity as the reason for their first exposure to internet pornography. Influence from peers surfaced as the second most cited reason (13.8%), followed by accidental exposure to pornography while surfing the internet (7.6%).
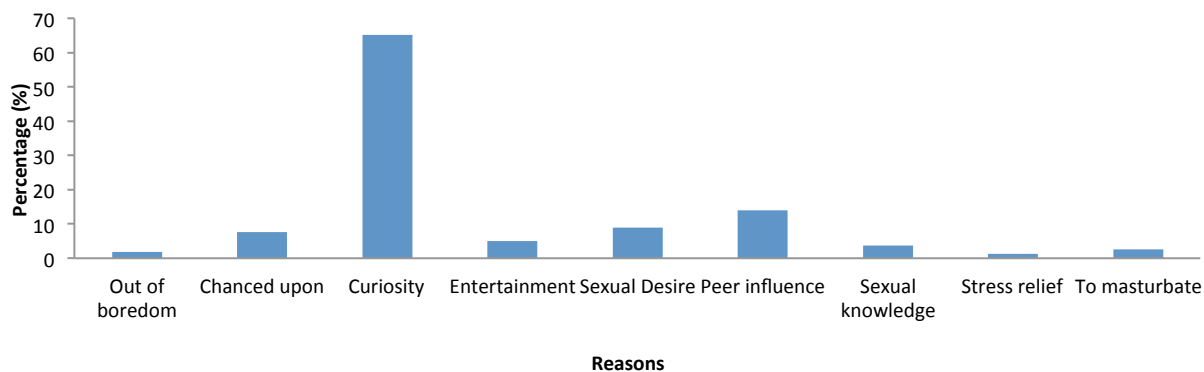

Figure 4. Reasons for initial exposure to pornography

Implications and Future Directions

Distinct gender difference in prevalence, age of exposure and frequency of pornography use were reported in the present study. The patterns of pornography use in the study were consistent with findings in the literature (e.g. Boies, 2002, Carroll et al., 2008 and Tai, 2014) with an exception of a later age of exposure reported among females. According to the Touch Cyber Wellness Survey, most females reported their first exposure to pornography in their secondary education (Tai, 2014). However, the survey did not sample beyond secondary school students and hence might not have captured the later age of exposure that we found with our sample. Nonetheless, the clear gender differences reported across studies suggested a universal male susceptibility to pornography use.

The present study also found sexual curiosity as the most cited reason for initial exposure to internet pornography. Most individuals were curious about the contents of pornography and the process of sex. However, there appears to be lack of appropriate channels for such discussions and many young internet users have turned to pornography to address their sexual curiosity. Therefore current regulatory methods which are more effective against accidental exposure to pornography on the internet, may become irrelevant in dealing with motivated pornography use on the internet.

From the patterns and motivations of pornography use, it is paramount to educate internet users at an early age of the negative implications of pornography. Lower secondary education would be a critical developmental period, especially among males, and efforts should be made to address areas of sexual curiosity. Education for individuals with prior exposure to pornography should also leverage on modifying the system of reinforcement maintaining the use of internet pornography. However, for individuals with prior exposure to pornography, the initial motivation of sexual curiosity may change with the continued pornography use. Hence, future studies may want to explore the reasons for internet pornography use among these individuals and a different set of intervention may be required.

In addition, most pornography users persisted in their pornography use from adolescence to young adulthood. The maintenance of their pornography use stems from a system of sexual reinforcement. This is evidenced by the high occurrence of masturbation with pornography use, where masturbation provides the sexual rewards and reinforces pornography use as a sexually gratifying activity. Similarly, deviant sexual behaviours can become reinforced through the system and the preliminary findings of substantial deviant exposure and masturbatory behaviours accompanying pornography use suggest that pornography users could be at risk of engaging in deviant sexual behaviours.

A limitation of the present study was that it was based on self-reports from a convenience sample of young internet users in Singapore. The sample largely consisted of undergraduates and similar age peers as they were recruited through the research participant pool and social media sites. Therefore, the sample size will not be fully representative of young internet users in Singapore. Future studies may wish to include a more diverse sample of participants and also consider implementing psycho-physiological measures to obtain more objective data regarding pornography use patterns and reactions.

Conclusion

Pornography use is prevalent among young internet users in Singapore. Clear gender differences have emerged from the patterns of pornography use with greater prevalence, earlier exposure and more frequent use among males. And a system of sexual reinforcement maintains the use of pornography from adolescence to young adulthood. In recommendation, more appropriate channels for sexual discussions at the lower secondary education would be required to curb exposure to internet pornography.

References

Boies, S. C. (2002). University students' uses of and recreation to online sexual information and entertainment: Links to online and offline sexual behavior. *Canadian Journal of Human Sexuality, 11*, 77-89.

Bonino, S., Ciairano, S., Rabaglietti, E., & Cattelino, E. (2006). Use of pornography and self-reported engagement in sexual violence among adolescents. *European Journal of Developmental Psychology, 3* , 265-288.

Brown, J., & L'Engle, K. (2009). X-Rated: Sexual Attitudes and Behaviors Associated With U.S. Early Adolescents' Exposure to Sexually Explicit Med. *Communication Research,36* , 129-149.

Peter, J., & Valkenburg, P. M. (2006). Adolescents' exposure to sexually explicit material on the Internet. *Communication Research, 33(2)* , 178-204.

Lo, V.-h., & Wei, R. (2005). Exposure to Internet Pornography and Taiwanese Adolescents' Sexual Attitudes and Behavior. *Journal of Broadcasting and Electronic Media, 49(2)* , 221-237.

Tai, J. (6 September, 2014). Half of teens here exposed to pornography: Survey. *The Straits Times* , p. A6.

Mathews, M. (2014). *Insights from the IPS Survey on Race, Religion and Language.* Singapore: Institute of Policy Studies.

MDA. (18 December, 2013). *Internet Policies and Content Guidelines.* Retrieved 20 Feburary, 2014 from Media Development Authorities: http://www.mda.gov.sg/Documents/PDF/Policies/PoliciesandContentGuidelines_Internet_InternetIndustryGuidelines1.pdf

Boies, S. C. (2002). University students' uses of and recreations to online sexual information and entertainment: Links to online and offline sexual behavior . *Canadian Journal of Human Sexuality, 11* , 77-89.

Choi, A. (2008). Internet in Singapore: Findings from a National Survey. *Observatorio Journal* , 151-168.

Stewart, D. N., & Szymanski, D. M. (2012). Young Adult Women's Reports of Their Male Romantic Partner's Pornography Use as a Correlate of Their Self-Esteem, Relationship Quality, and Sexual Satisfaction. *Sex Roles, 67* , 257-271.

Bonino, S., Ciairano, S., Rabaglietti, E., & Cattelino, E. (2006). Use of pornography and self-reported engagement in sexual violence among adolescents. *European Journal of Developmental Psychology, 3* , 265-288.

Lo, V.-h., & Wei, R. (2005). Exposure to Internet Pornography and Taiwanese Adolescents' Sexual Attitudes and Behavior . *Journal of Broadcasting & Electronic Media, 49(2)* .

Eldridge, H. (2000). Patterns of sex offending and strategies for effective assessment and intervention. In C. ltzin, *Home Truths about Child Sexual Abuse* (pp. 313-335).

Marshall, W. (2000). Revisiting the use of pornography by sexual offenders: Implications for theory and practice. *The Journal of Sexual Aggression, 6(1/2)* , 67-77. Print, B., & Morrison, T. (2000). Treating adolescents who sexually abuse others. In C. Itzin, *Home Truths about Child Sexual Abuse* (pp. 290-313).

Allen, M., D'Alessio, D., & Emmers-Sommer, T. M. (2000). Reactions of criminal sexual offenders to pornography: A meta-analytic summary. In M. Roloff, *Communication Yearbook 22* (pp. 139–169). Thousand Oaks, CA: Sage.

Cortoni, F., & Marshall, W. L. (2001). Sex As a Coping Strategy and Its Relationship to Juvenile Sexual History and Intimacy in Sexual Offenders. *exual Abuse: Journal of Research and Treatment, 13* , 27-43.

Marshall, W. L., Serran, G. A., & Cortoni, F. A. (2000). Childhood attachments, sexual abuse, and their relationship to adult coping in child molesters. *Sexual Abuse: A Journal of Research and Treatment, 12* , 17-26.

Hanson, R. K., Harris, A. J., Scott, T. L., & Helmus, L. (2007). *Assessing the risk of sexual offenders on community supervision: The Dynamic Supervision Project.* Ottawa: Public Safety Canada.

Kingston, D. A., Fedoroff, P., Firestone, P., Curry, S., & Bradford, J. M. (2008). Pornography Use and Sexual Aggression: The Impact of Frequency and Type of Pornography Use on Recidivisum Among Sexual Offenders. *Aggressive Behavior, 34* , 341-351.

Allen, M., D'Alessio, D., & Brezgel, K. (1995). A meta-analysis summarizing the effects of pornography II: aggression after exposure. *Human Communications Research, 22* , 258-283.

Vega, V., & Malamuth, N. M. (2007). Predicting Sexual Aggression: The Role of Pornography in the Context of General and Specific Risk Factors. *Aggressive Behaviour, 33* , 104-117.

ASEAN Integration via ASEAN Identity Building among Thai SME Entrepreneurs

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Abstract

The research is aimed to analyze the factors required for building ASEAN identity which composes of a combination of core identity elements (e.g. logo, ASEAN secretary- general, office location, core policy) and extended identity components (e.g. economic cooperation in various aspects) among Thai SME entrepreneurs. The survey research is applied to collect the data from 1,027 systematically selected samples. Factor Analysis reveals six extracted identity-creating factors which are composed of 3 core identity groups and 3 extended identity groups. The three extracted factors of ASEAN core identity are (1) ASEAN name & positioning, (2) Logo, office location, ASEAN personnel, and (3) news releases regarding regional cooperation. And, the other three extracted factors of ASEAN extended identity are (1) SME cooperation, (2) other economic cooperation, and (3) free trade and investment liberalization. This combination, nevertheless, when forwarded to SME entrepreneurs, needs to be on the balanced basis.

Keywords: Branding, Corporate Branding, Brand Identity

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Rationale

ASEAN or the Association of Southeast Asian Nations was founded in 1967 on the basis of favorable understanding and cooperation among member countries. The ultimate goal of ASEAN is thus to generate consciousness of unity among the people of each member country. In this aspect, the task of ASEAN will be successful only with the people's support and participation.

ASEAN is the regional international organization, consisting of 10 member countries—namely, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei Darussalam, Vietnam, Lao PDR, Myanmar, and Cambodia. In addition to generating the competitive edge with those in other regions, ASEAN aims basically to strengthen its member countries in terms of politics, stability, economics, as well as social and cultural aspects.

One significant factor in forming ASEAN integration is the economic sector, especially SMEs. In this aspect, ASEAN has set the "ASEAN SMEs" cooperation framework to promote SMEs roles and development in strengthening regional economic growth via the increase of competitiveness.

Research Framework

ASEAN integration basically represents the building of network relationships among stakeholders (Fisher-Buttinger & Vallaster, 2008, pp. xiv-xvii) in ASEAN member countries. This network formation is another aspect of branding to generate a linkage between various groups. In this case, branding is not limited only to symbolic construction, but also aims to create brand impression, differentiated band positioning, and recognition of functional and emotional benefits related to that particular brand (Knapp, 2000, p. 7).

Successful branding needs to consider the factor of brand equity that directly leads to determine brand strategy. Brand equity is the valuable asset associated with brands in relation to brand awareness and brand image. Keller (2008, pp. 48-51) has defined brand equity as customer-based, or the customers' knowledge about that particular brand, that results basically from brand awareness and brand image. Keller also notices that brand familiarity and awareness stem primarily from an individual's experience or exposure to that brand.

Being recognized as the important mechanism for collective perceptions, a brand functions primarily as a part of mind and emotion. Branding, as a matter of fact, is the process of creating brand impression among related individuals, so that they would be eventually aware of brand differentiation. This awareness is believed to originate from emotional or feeling arousal, and would trigger unconsciously rational decision among consumers (Bunyaratavej, 2002, p. 123)

The hierarchical effects of branding on individuals, therefore, could be identified as stemming from the following steps of brand building: brand awareness, brand preference, and brand loyalty. A strong or powerful brand, as a result, is the aftermath of a tightly associated relationship among the aforesaid three steps (Aaker, 1991, pp. 16-19).

Feeling towards a particular brand, therefore, would occur when an individual has associated that brand and its related symbols/elements with his/her feeling initiated at each step. Hence, ASEAN integration could start at memorizing ASEAN identity, associating further to unity, and being mentally transformed to create brand awareness.

Einwiller and Will (2002, pp. 100-109) stated that branding is the management process by which organizational image and reputation are created. In this aspect, image building of an organization is to create organizational awareness in the mind of related target groups within and outside the organization. As for the international organization like ASEAN, communication is an essential tool to deliver the message of ASEAN unity to the world. In addition, communication also functions strategically to maintain desirable relationships between and among related parties, and that would eventually generate positive image and reputation of ASEAN.

As a matter of fact, creating brand image generally requires the formation of an individual's awareness in terms of brand identity, characteristics, and personality. Therefore, an organization has to determine firstly what its vivid identity is. Van Riel (1995) defined organizational identity as how the organization presents itself via organizational behaviors, communication, and symbols. In this matter, Gray and Balmer (1998, pp. 659-702) proposed that organizational identity is reality and uniqueness of that particular organization.

In terms of holistic relationship, communication formats and patterns released by the organization will closely link identity with organizational image and reputation as perceived by internal and external stakeholders. To be concise, building organizational identity depends on corporate communication, or a process in which the related target groups are made to recognize the organization's formulated image and reputation (Balmer & Gray, 2000, pp. 256-261)

Building an organization's identity, therefore, is to create awareness among the related stakeholders towards the organization's core identity, or brand description that differentiates that particular organization from others. Extended identity such as brand personality or uniqueness may also be added to the core identity, so as to further reflect the organization's self-identity (Aaker & Joachimsthaler, 2000, p. 45).

Problem Statement

The aforesaid rational thereby leads to the following problem statement: Building ASEAN identity requires a combination of core identity elements (e.g. logo, ASEAN secretary- general, office location, core policy) and extended identity components (e.g. economic cooperation in various aspects). This combination, nevertheless, when forwarded to SME entrepreneurs, needs to be on the balanced basis.

Methodology

The researcher employed a survey using a questionnaire with 1,027 SMEs entrepreneurs who were selected systematically. The Cronbach's alpha of .9496 indicated that this questionnaire is of high reliability.

The collected data were then analyzed using Factor Analysis, with consequently yielding six extracted identity-creating factors.

Research Findings

The six extracted identity-creating factors are composed of 3 core identity groups and 3 extended identity groups. ASEAN core identity signifies important factors that represent ASEAN's self and core concepts, while ASEAN extended identity means other factors to complement ASEAN identity.

The three extracted factors of ASEAN core identity are as follows:
1. Factor relating to ASEAN's name and positioning (Factor loadings and communalities presented in Table 1)

The extraction reveals the factors of ASEAN name (V2.2), unity positioning (V2.12), and ASEANness feeling (V2.13). These factors jointly reflect ASEAN's ideology.

2. Factor relating to ASEAN's symbols, office location, and personnel (Factor loadings and communalities presented in Table 1)

The extraction reveals the factors of ASEAN symbols (V2.1), ASEAN office location (V2.3), and ASEAN personnel. In this case, ASEAN office location incorporates both physical and cyber-space (V2.4) entities, while ASEAN personnel are the combination of leaders of member countries (V2.5) Secretary-General (V2.6), and ASEAN full-time employees (V2.7). These factors jointly reflect ASEAN's concrete identity.

3. Factor relating to ASEAN's news release regarding significant cooperation within ASEAN (Factor loadings and communalities presented in Table 1)

The extraction reveals the factors of news releases regarding ASEAN cooperation. The news releases as perceived significant by the SMEs entrepreneurs include stability, (V2.8), economics (V2.9), social aspects (V2.10), and technology (V2.11). These factors jointly reflect ASEAN as the cooperative organization.

To summarize, the SME entrepreneurs perceived three factors essential for building ASEAN core identity. They are (1) ASEAN name & positioning, (2) Logo, office location, and ASEAN personnel, and (3) news releases regarding regional cooperation.

The extraction of extended identity reveals three factors. However, the factor loadings of intensive investment in ASAEN (V3.6), industrial cooperation (V3.7), and aids to new member countries for ASEAN integration (V3.15) are equivalently below .40. With perceived unclear economic-related meanings of the said items, the researcher decided to eliminate them.

The three extracted factors of ASEAN extended identity are as follows:

4. <u>Factor relating to SME cooperation</u> (Factor loadings and communalities presented in Table 2)
The extraction reveals the factors of SME cooperation as consisting of good entrepreneurs (V3.16), business growth (V3.17), and production for international markets (V3.18), innovation development (V3.19), increase of productivity (V3.20), and building business networks within the industry and between related industries (V3.21)

In this case, the SME cooperation is made clearer with the addition of setting corresponding standards (V3.22), cooperation in agriculture and forestry (V2.23), and economic cooperation with non-ASEAN countries (V3.24).   These factors jointly reflect SME entrepreneurs' perception that setting corresponding standards is required for industrial production. In addition, forestry is perceived as significant in ASEAN due to agricultural backgrounds of most member countries and need for differentiated industrial products, while economic cooperation with non-ASEAN countries reflects ASEAN's vision in extending cooperation in production, trading, and investment to non-ASEAN countries.

5. <u>Factor relating to other economic cooperation</u> (Factor loadings and communalities presented in Table 2)

The extraction reveals the factors of other cooperation, as consisting of trading & service (V3.8), finance (V3.9), transportation (V3.10), tourism (V3.11), information technology and electronics (e-ASEAN) (V3.12), telecommunications (V3.13), and energy (3.13). These factors are perceived by SME entrepreneurs as contributing to the holistic picture of ASEAN economic cooperation.

6. <u>Factor relating to free trade and investment liberalization</u> (Factor loadings and communalities presented in Table 2)

The extraction reveals the factors of cooperation regarding regional and inter-regional free trade and investment liberalization (V3.1, V3.2, V3.3, V3.4), and the aftermath privileges as the most favored nation (MFN) treatment (V3.5). However, these factors are perceived by SME entrepreneurs as barely significant for them.

In summary, the SME entrepreneurs perceived three factors essential for building ASEAN extended identity. They are (1) SME cooperation, (2) other economic cooperation, and (3) free trade and investment liberalization.

Discussion

Building an organization's identity needs to include both core and extended identities. According to Aaker and Joachimsthaler (2000), both components are of different levels of importance, depending on the contexts of time and related resource availability. The findings of this research reveal three most important factors for building ASEAN core identity, namely, news releases regarding regional cooperation ($\bar{x}$ = 3.64), ASEAN name ($\bar{x}$ = 3.58), and positioning ($\bar{x}$ = 3.33). Likewise, the three most important factors for building ASEAN extended identity are free trade liberalization ($\bar{x}$ = 3.72), free service liberalization ($\bar{x}$ = 3.46) in ASEAN, and cooperative production for international markets ($\bar{x}$ = 3.46).

The findings also revealed that the SME entrepreneurs neither have much knowledge about ASEAN ($\bar{x}$ = 5.975 out of 12), nor feel certain in identifying ASEAN symbols and related elements. This reflects that ASEAN lacks an indicator of self-identity among SME entrepreneurs. Hence, to create ASEAN branding following the three hierarchical steps (awareness, preference, and loyalty), ASEAN knowledge is the most important initial requirement (Aaker, 1991).

In addition, since ASEAN activities have so far been managed by a number of related government agencies, they thus lack prominence and uniqueness. Likewise, the SME entrepreneurs are reportedly unaware of benefits to receive from trade agreements made between Thailand and other member countries.

Moreover, some SME entrepreneurs who used to participate in ASAEN economic cooperation activities stated their uncertainty whether ASEAN was the sponsor of those activities. As a result, every party concerned should pay specific consideration to all essential components of identity building, as in accordance with Gary and Balmer (1998)'s suggestion on detailed and conformed planning of identity building.

Another factor to emphasize in ASEAN core identity building is the dissemination of ASEAN cooperation in ASEAN, particularly the extended identity of economic cooperation. These two factors can be used to formulate ASEAN positioning "to be an organization for cooperation among member countries" among SME entrepreneurs, and this serves as a part of generating ASEAN identity as a different entity from other organizations. This notion is in accordance with Aaker (1996)'s suggestion on continuous news releases of the aforesaid cooperation.

Table 1

Factor Loadings and Communalities of Extracted Factors on ASEAN Core Identity Building

Items	Factors			Communalities
	1	2	3	
V2.2	.853	.104	-.357	.688
V2.12	.760	-.088	.272	.729
V2.13	.693	.007	.163	.594
V2.1	.186	.501	.019	.380
V2.3	-.087	.757	.032	.543
V2.4	.013	.738	.005	.558
V2.5	.224	.705	-.079	.629
V2.6	-.056	.804	.078	.671
V2.7	-.053	.779	.070	.626
V2.8	-.135	.097	.865	.758
V2.9	.356	-.063	.629	.634
V2.10	.017	-.020	.909	.821
V2.11	-.080	.068	.884	.791
Eigenvalues	5.505	1.623	1.292	
Explained Variance per Factor (%)	42.347	12.487	9.939	
Cumulative (%)	42.347	54.834	64.773	

First Factor of ASEAN Core Identity Building: ASEAN Name and Positioning
V2.2=ASEAN Name V2.12= ASEAN Positioning on Unity V2.13=Feeling of ASEANness

Second Factor of ASEAN Core Identity Building: ASEAN logo, office location, and personnel
V2.1=ASEAN logo V2.3= ASEAN office location V2.4= ASEAN website V2.5= ASEAN leaders V2.6= ASEAN Secretary-General V2.7= ASEAN personnel

Third Factor of ASEAN Core Identity Building: News releases of major ASEAN cooperation
V2.8=News on stability cooperation V2.9=News on economic cooperation V2.10=News on social cooperation V2.11=News on technological cooperation

Table 2

Factor Loadings and Communalities of Extracted Factors on ASEAN Extended Identity Building

Items	Factors 1	2	3	Communalities
V3.16	.876	.006	-.007	.766
V3.17	.953	-.062	-.028	.814
V3.18	.946	-.042	-.021	.828
V3.19	.950	.025	-.134	.817
V3.20	.959	-.047	-.059	.815
V3.21	.819	.052	-.004	.725
V3.22	.705	.052	.102	.634
V3.23	.452	.232	.043	.423
V3.24	.561	-.071	.234	.438
V3.8	.077	.603	.185	.605
V3.9	.104	.680	.072	.631
V3.10	-.031	.879	-.020	.720
V3.11	-.130	.783	.062	.554
V3.12	.171	.784	-.145	.676
V3.13	.063	.890	-.168	.712
V3.14	-.086	.911	-.054	.691
V3.1	-.186	.000	.895	.665
V3.2	.075	-.117	.803	.607
V3.3	.092	-.108	.861	.722
V3.4	.022	-.027	.860	.732
V3.5	-.044	.219	.515	.410
V3.6*	.284	.241	.331	.523
V3.7*	.235	.317	.347	.579
V3.15*	.086	.467	.351	.457
Eigenvalues	11.546	2.320	1.677	
Explained Variance per Factor (%)	48.110	9.667	6.990	
Cumulative (%)	48.110	57.778	64.767	

First Factor of ASEAN Extended Identity Building: SMEs cooperation
V3.16= ASEAN SME cooperation on good entrepreneurs V3.17= ASEAN SME cooperation on business growth V3.18= ASEAN SME cooperation on production for international markets V3.19= ASEAN SME cooperation on innovation development V3.20= ASEAN SME cooperation on increase of productivity V3.21= ASEAN SME cooperation on business networks building business networks within the industry and between related industries V3.22= ASEAN cooperation on setting corresponding standards V3.23= ASEAN cooperation on agriculture and forestry V3.24= ASEAN cooperation on economics with non-ASEAN countries

Second Factor of ASEAN Extended Identity Building: Other economic cooperation
V3.8=cooperation on service trading V3.9= cooperation on finance V3.10= cooperation on transportation V3.11= cooperation on tourism V3.12= cooperation on information technology and electronics (e-ASEAN) V3.13= cooperation on telecommunications V3.14= cooperation on energy

Third Factor of ASEAN Extended Identity Building: Free Trade and Investment Area
V3.1=ASEAN Regional Free trade liberalization V3.2=Free Trade liberalization between ASEAN and other countries in other regions (ASEAN+1) V3.3=Free service trade liberalization in ASEAN V3.4=Free Investment Liberalization in ASEAN V3.5=Most Favored Nation Treatment (MFN)

Recommendations

1. As for ASEAN, to create ASEAN identity among the SME entrepreneurs on the basis of "Economic cooperation among member countries," one has to consider the core identity of "news releases about major economic activities in ASEAN" supported by "organizing activities regarding SMEs cooperation."

2. As for future research, a study on relationships between identity creation and other components of brand equity (e.g. brand characteristics and personality) should be conducted.

References

Aaker, D. A. (1996) *Building Strong Brands*. New York: The Free Press.

Aaker, D. A. (1991) *Managing Brand Equity*. New York: The Free Press.

Aaker, D. A., and Joachimsthaler, E. (2000) *Brand Leadership*. New York: The Free Press.

Balmer, J. M. T., and Gray, E. R. (2000) "Corporate Identity and Corporate Communications: Creating a Competitive Advantage." *Industrial and Commercial Training*. Vol. 32 No. 7 : 256-261.

Boonyaratawej, D. (2002) *Brand Voice*. Bangkok: Tipping Point, Co. Ltd. [Dolachai Boonyaratawej. (2545) *Brand Voice*. Krungthep: Tipping Point, Co. Ltd.]

Einwiller, S., and Will, M. (2002) "Towards an Integrated Approach to Corporate Branding – An Empirical Study." *Corporate Communications: An International Journal*. Vol. 7, No. 2 : 100-109.

Fisher-Buttinger, C., and Vallaster, C. (2008) *Connective Branding: Building Brand Equity in a Demanding World*. England: John Wiley & Sons Ltd.

Gray, E. R., and Balmer, J. M. T. (1998) "Managing Corporate Image and Corporate Reputation." *Long Range Planning*. Vol. 31 No. 5 : 695-702.

Keller, K. L. (2008) *Strategic Brand Management: Building, Measuring and Managing Brand Equity*, 3rd ed., New Jersey: Pearson Education, Inc.

Knapp, D. E. (2000) *The Brandmindset*. New York: McGraw-Hill.

Van Riel, C. B. M. (1995) *Principles of Corporate Communication*. London: Prentice Hall.

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Information Adequacy during Organization Assimilation Process in Thai Organization

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Abstract

The purpose of this study is to determine the extent to which newcomers within Thai organization find each of several categories of organizationally-relevant information adequacy during the process of organizational assimilation. Participants in the study were 247 "new" employees at Bangkok Bank. Bangkok Bank considers employees whose length of stay with the bank has been less than 18 months as new employees. Questionnaires were administered to all of the Bank's new employees to obtain the data for this study. A t-test was used to analyze the data. The data were summed and coded by using Statistical Package for Social Science.

In all probability, the explanation for this finding rests the fact that all newcomers go through a training prior to starting their jobs. Thus, all newcomers receive the same basic information concerning the organizations as well as a measure of job-relevant information. Banking operations tend to be routine and systematic. Employees know their duties very well. So, with a standard orientation provided, all relatively new employees might very well find themselves on an equal footing. Information does not vary as a function of previous work experience.

Keywords: Information Adequacy, Organization Assimilation

Introduction

Thousands of people begin with new jobs and assume new organizational roles, yet very little is known about the process by which new role incumbents become assimilated into an organization. Curiously, although the efforts of newcomers to proactively reduce uncertainty in their work environments are of obvious importance to their successful organizational assimilation, the means by which newcomers seek information has received scant research attention. (Ashford, 1986; Ashford & Cummings, 1985, Miler & Jablin, 1991). This study provides an examination of newcomers within Thai organization find each of several categories of organizationally-relevant information adequacy. During an assimilation process, newcomers seek information in order to adjust themselves to their organization's culture. Newcomers need information to reduce their uncertainties regarding organizational entry.

Although most organizational researchers acknowledge that individual and situational factors have an effect on successful organizational entry, few have generated theories on research assimilation as a process involving both influences. One notable exception has been the theory building and research by Jones (1983, 1986) who argued for an interactionist approach to explain the socialization experience. Falcion and Wilson (1988) suggest that the interactionist approach, which views the reciprocal impact of the newcomer's psychological orientation and organization influence as antecedents to successful socialization, best explains current notions of the assimilation process. Although this approach effectively explains the impact of individual and situation elements, the interactionist perspective fails to clarify the function and outcomes of communication in the entry process. Unless resulting communication behavior can be identified, explained, and based on an established communication theory, such a perspective remains incomplete and inadequate as a conceptualization of the dynamic process of organizational assimilation (Gorden, Mignerey, & Rubin, 1995). Commonly explanations of the assimilation process have focused on those issues thought to influence the communication between a superior and his/her subordinate.

During the past several years, there has been growing interest in how newcomers obtain information during the encounter period of assimilation. Research has found that effective information acquisition is related to assimilation outcomes such as satisfaction, commitment, and retention (Morrison, 1993a; Ostroff, & Kozlowski, 1992). These findings notwithstanding, the existing research on newcomer information acquisition leaves many questions unanswered. This is because the issue of information acquisition has been approached from several different frameworks, such that there is not a generally accepted typology of the information that newcomers must acquire. Further, have focused almost on newcomer information seeking and have paid relatively little attention to the unsolicited information that newcomers receive. Another issue that has been neglected is the perceived usefulness of various types of information.

The objective of study

The research sought to determine the extent to which newcomers within Thai organization find each of several categories of organizationally-relevant information adequacy.

Statement of the problem

This study tries to address the problem of the assimilation newcomers into Thai organizations. There might be many problems that newcomers do not understand and they experience as they try to adjust themselves to an organization. The assimilation process in an organization has a major influence on the performance of individuals, and thus affects group and organizational performance as well. Regardless of whether it is consciously planned and managed or whether it occurs informally, assimilation provides newcomers with considerable information about appropriate roles and behaviors. Assimilation is the process of what referred to as "learning the ropes."

While few would deny that the assimilation process is part of organizational life, the specific relationship between assimilation activities and subsequent employee attitudes not well known.   Louis (1980) suggests that when newcomers enter an organization they are faced with learning a new culture. Newcomers must assimilate the unofficial rules for sorting, labeling, and interpreting experience in the organization. These unwritten rules provide important clues for how to become an effective organizational member.

Thai organizations spend a great deal of time and money to orient new employees. Usually the direct costs for indoctrination program as substantial. However, there are indirect costs as well. For example, newcomers generally work below capacity while they learn their jobs and adjust to their new surrounding. The possibility of reducing costs provides an important incentive for organizations to learn about ways to improve orientation and assimilation programs.

Most interaction in organizations involve information seeking. Researchers have taken the position that information seeking is particularly important and somewhat unique during organizational entry. Organizational entry might represent the most critical time of employee role learning. The ease and quickness with which newcomers learn their role are likely to affect their relationships with members of their role set and have an impact on their career path. At the same time, newcomers are likely to experience considerably higher levels of role-related and career uncertainty when entering a new environment than at any other time during their organization tenure.

In addition, newcomers in comparison to old-timers are likely to seek information in relatively more "mindful" as opposed to "mindless" ways (Langer, 1978, p. 36-38). In other words, their heightened sense of uncertainty leads newcomers (1) to be conscious of value and behavior to be learned and (2) to often think about what they do not know and how to obtain the information they desire. As a consequence, when individuals are new to an organization they might seek information in a far more deliberate manner than when they have grown accustomed to their organizational environment (Asford & Cummings, 1985).

This study will provide Thai organizations with more information adequacy concerning the effectiveness of types of information. And the readers of this study will understand more about the important role of information adequacy toward newcomers as part of the assimilation process.

A. *Organization Assimilation*

Organization assimilation is the process by which individuals become integrated into an organization (Jablin, 1982). Organization assimilation can be viewed as a process which take place during the first weeks and months of a newcomer's organizational experience. Graen's (1976) model of role making processes in organizations views assimilation in this way. Briefly, this model asserts that the jobs which organizations fill are typically the product of incomplete programs which must be completed or defined by the organization's participants. Organizational assimilation refers to the process by which organization members become part of, or are absorbed into, the culture of an organization. This process is perhaps best known as organizational "role taking" (Katz & Kahn, 1966) or organizational "role making" (Graen, 1976).

Organizational assimilation consists of attempts by organizational agents to teach newcomers and attempts to learn about their role in the organization. During the encounter stage of assimilation, which occurs during the weeks and months immediately following entry, newcomers must learn about the requirements of their jobs, about the expectations associated with their jobs, about the expectations associated with their roles, and about the organization in general (Jablin, 1987). For this process to succeed, newcomers need to obtain information (Miller & Jablin, 1991; Morrison, 1993a).

B. *The information that newcomers need/ Information seeking*

Upon entering an organization, newcomer typically experience some degree of surprise (Louis, 1980) or role shock (Van Maanen, 1975). Faced with learning the formal and informal requirements of a new role within the organization, this boundary passage event is often associated with high levels of uncertainty. Information transmitted from various organizational sources during the entry or encounter stage (Van Maanen, 1975) of organizational assimilation is intended to help newcomers cope with the surprise and the uncertainty they might experience. In particular, messages from management, supervisors, and co-worker during the encounter period are usually designed to clarify newcomers' roles, to indoctrinate newcomers to organizational practices, to ease newcomers into membership in their work groups, and to help newcomers begin to develop new self-image, in keeping with their new roles and organizations (Jablin, 1978).

Despite an organization's attempts to provide newcomers with information that is relevant to their new roles, there might be inadequacies in the nature and scope of the information presented. In fact, one study has shown that, during the encounter period, newcomers perceive that they receive less information from those around them than they believe is needed (Jablin, 1984). Sources of information adequacy might be found in the passing of a honeymoon period (Ziller, 1965).

Old-timers who might have once gone out of their way to make newcomers feel like guests and who were open sources of inside knowledge can gradually become closed to newcomers' inquiries.

Information inadequacy can also stem from the newcomer's inability to interpret (i.e. decode) messages sent by incumbents. Though incumbents might intend that their messages be helpful, newcomers might instead experience overload (i.e., receive more messages than can be processed), have an insufficient context-specific dictionary by which to decipher jargon, and/or be unable to discriminate between "ambient" and "discretionary" messages (Jablin, 1987, p. 694). Thus, newcomers who experience information decoding problems might need assistance in recalling, clarifying, amplifying, or discounting received messages.

During the encounter phase of organizational assimilation, newcomers depend upon information from others for developing role clarity. Although newcomers receive role-relevant information, the information they receive is frequently perceived as inadequate; hence, they usually experience fairly high levels of uncertainty (Jablin, 1982; Salanick & Pfeffer, 1978). This uncertainty is reflected in the level of role ambiguity and role conflict which newcomers experience and is of importance because it can have an impact on employees' job satisfaction productivity, and ultimately, job tenure (Asford & Cummings, 1985; Jackson & Schuler, 1985). Thus, it is no surprise that newcomers are often advised to reduce their uncertainty by "seeking out the help and information they need to do their work effectively instead of waiting or wishing for their bosses to provide it" (Katz, 1985, p. 122).

C. *Information Adequacy*

Information Adequacy represents the actual amount of information accurately understood by a given group of organization members, plus their perceptions of whether they feel adequately informed (Redding, 1972). A cloud hanging over this issue concerns what organization members ought to be told. Usually decisions about what employees should know are made by top management of the organization. However, when lower-level employees report that the information they receive is inadequate, those decisions are made by the employees themselves (Wayne, 1983). In any case information adequacy depends on some definition of what information ought to be known.

In a research program on measuring the effectiveness of employee communications conducted at South Illinois University, Bateman and Miller (1979) reported developing the following list of topics on which employees might like to be informed:

-Fringe benefit
-Division products
-Employee hobbies
-News about company
-Cartoons and jokes
-How division products are used
-Employee recreational news
-Charity funds and drives
-Departmental features
-Saving bonds programs
-Business trends affecting company
-All products
-Executive promotions
-Employee safety
-News about retirees
-How company products are used
-Compensation
-New or improved products
-Sales progress
-Free enterprises system

Bateman and Miller (1979) also developed a checklist of subjects that employees might like to discuss with their supervisors. That list included

-Machine or job-related problems
-Time off
-State of the division
-Potential layoffs
-Performance evaluation
-Procedures
-Fringe benefits
-The company in general
-Overtime
-Tools and equipment
-Income order
-Vacation time
-Plant or office procedures
-How well the employee is doing
-Pay and pay increases

Whether these are the best areas and the kinds of information that an employee ought to know which has not been answered by any research reported at this time. The issue seems to be substantial one for organizations because, as Bateman and Miller (1979), "if each employee really mastered all the communications humming about him, he would have precious little time for anything else but that" (p. 22).

Nevertheless, the general rule seems to be one of downward communication, at least as far as information adequacy is measured by actual information tests (Redding, 1972)

Information is a key to the reduction of uncertainty. Organization members usually are concerned with the adequacy of this information (Daniels & Spiker, 1987). Farance, Monge, and Russell (1977) contended "What is known in an organizational and who knows it is obviously very important in determining the overall functioning of the organization" (p. 27)". France et al. explained problems associated with information adequacy by employing Brillouin's (1962) distinction between absolute and distributed information. Absolute information refers to the total body of information that exists within an organization at any time. This information is distributed to the extent that it is diffused throughout the organization. Information adequacy problems might arise because a piece of information simply does not exist in the organization's pool of absolute information or because existing information is not properly distributed.

Daniels and Spiker (1994) observe that several studies have sought to measure information adequacy with a scale developed by the International Communication Association (ICA). This scale asks organization members to report the extent to which they are adequately informed on the following topics:

1. How well I am doing my job
2. My job duties
3. Organizational policies
4. Pay and benefits
5. How technological changes affect my job
6. Mistakes and failures of the organization
7. How I am being judges
8. How job-related problems are being handled
9. How organization decisions are made that affect my job
10. Promotion and advancement opportunities in my organization
11. Important new product, service, or program development s in my organization
12. How my job related to the total organization
13. Specific problems faced by management

While research has linked information adequacy only implicitly with participation in organizations (Sanborn's study & Tompkin's study as cited in Daniels & Spiker, 1983), there are studies that provide explicit rationales for the role of information adequacy as an indicator of participation (Daly, Falcione, & Damhorst, 1979; Goldhaber, Yates, porter, & Lesniak, 1978). However, information adequacy has been operational zed in various ways. For example, one definition considers members' specific levels of knowledge about the organization and its policies. Studies employing knowledge tests usually focus upon the gap between absolute and distributed information, frequently finding that members' knowledge levels are inadequate by the customary standards of objective measurement (Farance, Monge, & Russell, 1977). Other studies involving knowledge tests explore the relationship between information adequacy and indices of satisfaction. Tompkins (as cited in Daniels & Spiker, 1994), for example, found a high positive correlation between knowledge levels and satisfaction with communication.

A second operationalization of information adequacy measures organization members' judgments about how well they are informed (i.e., perceived adequacy of information) rather than their levels of specific knowledge about the organization. Sanborn's study (as cited in Daniels & Spiker, 1983) used this approach in a study which found no relationship between communication satisfaction and morale, as well as a negative relationship between communication satisfaction and upward communication freedom.

Goldhaber et al. (1978) reported results of research based on the ICA Communication Audit and involving over 3,600 persons in 16 organizations. This research operational zed information adequacy in terms of the perceptions organization members had of how much information they receive about specific job and organization matters. Data also indicated that organization members receive and want to receive more information related to their immediate work environment than information related to the organization as a whole. While studies of information adequacy generally have been concerned with the potential impact of adequacy on variables such as satisfaction, the most recent work has attempted to identify the conditions under which organization members perceive themselves to be adequately informed (Daniels & Spiker, 1994). Alexander, Helms, and Curran (1987) found that levels of communication with supervisor, administrative sources, and peers are greater for members who perceived themselves to be in adequately informed. Inadequately informed members also were younger than more adequately informed members, and they had been employed with the organization for less time.

All of the work here has been conducted in Western organizations. This study provides a shift in focus as this research was conducted in a Thai organization. Specifically, the study examined whether there is a difference in perceived information adequacy among newcomer who have different levels of work experience.

Hypothesis of the study

There will be a difference in perceived information adequacy among newcomers who are conceivably at different points in the assimilation process based on their length of association with the organization.

Methodology

This particular research, with its focus on employee perceptions of the process of organizational assimilation, required access to a moderately large number of new or relatively new employees. One option was to survey new employee across a wide range of organizations. That option would clearly provide for a diversity in employee experiences and perspectives. However, there would be a myriad of a difference born of the size of each organization, the presence or absence of formal employee training programs, the presence or absence of mentoring relationships.

In essence, the very diversity that might constitute an advantage would make the task of drawing conclusions complex and difficult indeed. Thus, a second option-that of using a case study approach by focusing data collection on employee experiences within a single organization was deemed preferable.

A. Sample

The sample in this study was obtained through systematic random sampling procedures. The researcher obtained a list of new employees from the personal department of Bangkok Bank and selected 300 employees who had worked no more than 18 months in each department. Bangkok Bank considers employees whose length of stay with the bank has been less than 18 months as "new" employees. The research asked for assistance from head of the personal department of Bangkok Bank in identifying eligible employees and in distributing the questionnaires. The respondents for this study were all considered permanent employees of the Bank.

B. Demographic Information Analysis

A total of 247 usable questionnaires were returned for a response rate of 82.5%. Generally, the sample characteristics were compatible with the characteristic of the population. Most of respondents are female (n = 135; 54.7%), between 26 and 39 years of age (n = 169; 68.4%), with a monthly salary ranging from 10,001 baht to 15,000 baht (n = 142; 57.5%). Their modal education is a bachelor's degree (n = 235; 95.1%). Only 11 of them carry a master's degree. In terms of work experience, most of the respondents (n = 151; 61.1%) reported that, at the time of this study, they worked for The Bank for 16 months to 18 months.

C. Data gathering instrument

The questionnaire focused on information adequacy that organization members' perceptions of the adequacy of information received. The 13-items scale asked respondents to report the extent to which new employees believed themselves to be adequately informed on several topics (Goldhaber & Rogers, 1979). The scale ranges from 1 to 5, by which 1 means "very little", 2 means "little", 3 means "some", 4 means "great", 5 means "greatly." Means scores of "low level" range from 1-2, "moderate level" ranges from 3, and "high level" ranges from 4 to 5. Goldhaber and his colleagues have tested each section of this questionnaire extensively. The reported reliability of the subscale is .88 (Downs, 1988). Downs also reports the discriminant reliability as 100 percent.

Reliability test was conducted for the scale to investigate the internal consistency among the items. Alpha coefficients were .8532 for Information adequacy scale. The pretest results indicated that the information adequacy scale was sufficiently reliable for use in the actual study. This testing also revealed that there was no cultural differences serving to on validate the questionnaire. The translated questionnaire could be employed in Thailand.

A t-test was performed in order to test whether differences in information adequacy are affected by the levels of work experience. The minimum sample size needed is approximately 33 for a correlation at .08. The researcher estimated effect size for this project as .50 with alpha level at .05 and two levels of work experience (Aron & Aron, 1997).

Result

The hypothesis is predicted that there will be a difference in perceived information adequacy among newcomers who are conceivably at different points in the assimilation process based on their length of association with the organization. The questionnaire had asked respondents to mark one of five time frameworks as representing their level of association with the Bank. Given the range of work experience represented by the respondents in this research (specifically 3 months to 18 months), ideally, the researcher would have created a minimum of three, if not five, comparison groups. Unfortunately, the distribution of work experience in evidence did not warrant such an approach. Probably as an artifact of the economic conditions impacting Thailand at the times of this research, two groups of respondents were in evidence: a group of employees who had been with the Back for 3 to 15 months, and a group of employees who had been with the Bank for 16 to 18 months. Thus, the analysis of the data with respect to the hypothesis was based on a comparison of these two groups.

A t-test was used to investigate whether the different levels of work experience affect newcomers' perception of information adequacy. The result was not significant (t_{245} = -.179, $p > .001$, see Table 1). Thus, this hypothesis was not supported. There was no difference in perceived information adequacy among newcomers based on their length of association with the Bank. Newcomers who had been with the Bank three to fifteen months rated the adequacy of the information they had received as $\overline{X}$ = 3.5921, while those who had been with the Bank sixteen to eighteen months rated the adequacy of the information as $\overline{X}$ = 3.6077 (see Table 2).

Table 1: T-test Comparison of Employees Based on Length of Association with the Bank

	Levene's test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	T	Df	Sig (2-tailed)
ADEQUAT: Equal variances assumed	.553	.458	-.179	245	.858
Equal various not assumed			-.182	213.386	.856

Note: ADEQUAT = Information Adequacy

Table 2: Means of Levels for Work Experience

MONTH	Mean	Standard Deviation	N
ADEQUAT: 3-15 MONTH	3.5921	.6382	96
16-18 MONTH	3.6077	.6877	151

Note: ADEQUAT = Information Adequacy

Conclusion

This study attempts to examine newcomer assessments of the adequacy of the information made available to them via various sources. The subjects in this study consisted of 247 employed from Bangkok Bank, with data collection accomplished through the use of a written questionnaire. A t-test was used to examine differences prior to accepting employment with the Bank. The data were coded and analyzed using Statistical Package for Social Science.

The hypothesis predicted that there would be a difference in perceived information adequacy among employees who, while still considered newcomers, had been with the orientation for varying lengths of time and, thus, should be at different points in the assimilation process.

This hypothesis was not supported. In all probability, the explanation for this finding rests the fact that all newcomers go through a training prior to starting their jobs. Thus, all newcomers receive the same basic information concerning the organizations as well as a measure of job-relevant information. Banking operations tend to be routine and systematic. Employees know their duties very well. So, with a standard orientation provided, all relatively new employees might very well find themselves on an equal footing. Information does not vary as a function of previous work experience.

Limitation

The sample for this study was homogeneous in many respects. Although our respondents entered a variety of department within the Bank, and displayed a variety of a personal characteristics, for the purpose of generalizability a more diverse sample of newcomers might be preferred.

Future Research

Future research concerning newcomer information adequacy might well benefit from attention to different professions and industries. Another important direction for future research would be to access the amount and quality of information adequacy that newcomer actually obtain from their information seeking efforts.

References

Aron, A. & Aron, E. N. (1997). *Statistics for the behavioral and social science*. NewYork: Prentice Hall.

Ashford, S. J. (1986). The role of feedback seeking in individual adaptation: A resource perspective. *Academy of Management Journal, 29*, 465-487

Ashfod, S. J., & Cummings, L. L. (1985). Proactive feedback seeking: The instrumental use of the information environment. *Journal of Occupational Psychology, 58*, 67-70

Bateman, D. N., & Miller, J. L. (1979, December). *Meaning of the Effectiveness of Employee Communication*. Paper presented at the annual meeting of the American Business Communication Association.

Brillouin, L. (1962). *Science and information theory*. New York: Academic Press.

Daly, J. A., Falcione, R. L. & Damhorst, M. L. (1979). *Communication Correlations Relational and Organizational Satisfaction: An Audit Based Investigation*. International Communication Association Convention, Philadephia.

Daniels, T. D., & Spiker, B. K. (1983). Social exchange and the relational between information adequacy and relational satisfaction. *The Western Journal of Speech Communication, 47*, 118-137.

Daniels, T. D., & Spiker, B. K. (1987). *Perspective on Organizational Communication*. Wm. C. Brown Communications, Inc.

Daniels, T. D., & Spiker, B. K. (1994). *Perspective on Organization Communication*. Wm. C. Brown Communications, Inc.

Falcion, R. L., & Wilson, C. E. (1988). Socialization process in organization. In G. Goldhaber & G. Bernett (Eds.), *Handbook of organizational Communication*

Farance, R. V., Monge, P. R., & Russell, H. M. (1977). *Communicating and organizing*. Reading, MA: Addison-Wesley.

Goldhaber, G. M., Yates, M. P., Porter, D. T., & Lesniak, R. (1978). Organizational Communication. *Human Communication Research, 5,* 76-96.

Gorden, W. I., Mignerey, J. T. & Rubin, R. B. (1995). Organizational entry: An investigation newcomers communication behavior and uncertainty. *Communication Research, 22*, 54-85.

Graen, G. (1976). Role-making processes within complex organizations. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp.1201-1245). Chicago: Rand McNally.

Jablin, F. M. (1982). 'Organizational communication: An assimilation approach," in M. E. Roloff & C. R. Berger (Eds.), *Social Cognition and Communication* Newbury Park: Sage, 1982, pp. 255-286.

Jablin, F. M. (1984). 'Assimilating new members into organization,' in R. Bostrom (Ed.), *Communication yearbook, 8,*. Beverly Hills, CA: Sage, 1984, pp. 594-626.

Jablin, F. M. (1987). 'Organizational entry, assimilation, and exit," in F. M. Jablin, L. L. Putnam, K. Roberts, & L. Porter (Eds.), *Handbook of organizational Communication* Newbury park, CA: Sage, 1987, pp. 679-740.

Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Performance, 36*, 16-78.

Jones, G. R. (1983). Psychological orientation and the process of organization socialization: An Interationist perspective. Academy of Management Review, 8, 464-474.

Jones, G. R. (1986). "Socialization tactics, self-efficiency, and newcomer's adjustment to the organization," *Academy of Management Journal, 29*, 262-279.

Katz, R. (1985). Organizational stress and early socialization experiences. In T. A. Beehr & R.S. Bhagat (Eds.), *Human stress and recognition in organizations* (pp. 117-139). New York: Wiley

Katz, R. & Kahn, R. L. (1966). *The social psychology of organizations*. New York: Wiley.

Langer, E. J. (1978). Rethinking the role of thought in social interaction. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.) *New directions in attribution theory, 2*, 35-58. Hillsdale, NJ: Erlbaum.

Louis, M. R. (1980). 'Surprise and sense-making: What newcomers experience in entering unfamiliar organizational setting,' *Administrative science Quarterly, 25*, pp. 226-251.

Miler, V. M., & Jablin, F. M. (1991). "Information seeking during organizational entry: Influence, tactics, and a model of the press," *Academy of Management Review, 16*, pp. 92-120.

Morrison, E. (1993). 'A longitudinal study of the effects of information seeking on newcomer socialization,' *Journal of Applied Psychology, 78*, pp. 173-183.

Ostroff, C. & Kozlowski, W. J. (1992). 'Organizational socialization as a learning process: The role of Information acquisition,' *Personnel Psychology, 45*, pp. 42-65.

Redding, W. C. (1972). *Communication within the Organization: An Interpretive Review of Theory and Research*. New York: Industrial Communication Council, Inc.

Salanick, G. R., & Pfeffer, J. (1978). A social information processing approach to a job attitudes and task design. *Administrative Science Quarterly, 23*, 224-253.

Van Maanen, J. (1975). 'Police socialization: A longitudinal examination of job attitudes in an urban police Department,' *Administrative Science Quarterly, 20*, pp. 207-228,

Wayne, R. P. (1983). *Organization Communication: Foundations for human resource development*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Ziller,R. C. (1965). Toward a theory of open and closed groups. *Psychological Bulletin, 64*, 164-182.

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