

Media literacy and the credibility evaluation of social media information: students' use of Instagram, WhatsApp and Telegram

Social media
information

Ali Shabani

*Department of Information Science and Knowledge, Faculty of Management,
University of Tehran, Tehran, Iran, and*

Hamid Keshavarz

*Laboratory for Social and Cognitive Informatics,
National Research University Higher School of Economics, St. Petersburg, Russia*

Received 22 February 2021
Revised 14 May 2021
Accepted 5 June 2021

Abstract

Purpose – Due to their unique characteristics in terms of information type, quantity and exchange, social media are regarded as a challenging information resource that makes credibility evaluation a more complicated behavior. This study aims to investigate the role of media literacy in the credibility evaluation of social media information among students as a major community of user groups.

Design/methodology/approach – The study tried to explore whether or not the three popular platforms of WhatsApp, Instagram and Telegram with their unique features, show a significant difference in the credibility evaluation among a sample of 150 students at the Shahid Beheshti University, Tehran, Iran. By administrating two validated measures related to the two main variables, data gathered were analyzed through the partial least-squares (PLS) method using the software SmartPLS.

Findings – Convergent and discriminant validities, as well as model fit indices, showed the reliability of the conceptual model at the 99% confidence level. Moreover, path analysis demonstrated that media literacy could affect all components of the credibility evaluation, except for currency evaluation. Overall, media literacy had less impact on evaluating information sources and information credibility compared to information presentation. Further analysis showed no significant difference in credibility evaluation with respect to the application used.

Originality/value – There appears a crucial need for the students to be skilled more in evaluating content and source without which their decision-making might be negatively affected.

Keywords Social media, Media literacy, Social media information, Information evaluation skills, Online information behavior, Online information credibility

Paper type Research paper

1. Introduction

Over the past decade, social media have dramatically changed how information is produced, used and shared. Currently, social media have emerged as one of the dominant communication mechanisms by which people communicate and work. Social media are highly accessible everywhere and almost in all walks of life (Zhang *et al.*, 2020; Hong, 2015). Therefore, the process of producing, using and sharing ideas and information through social media within organizations and among the people is a fast-growing fashion (Kwahk and Park, 2016). Social media have changed human communications in the sense that access to



and spreading information is far higher than before. Due to their fast and easy use, networking applications can allow us to provide more meaningful and effective interactions and work-related communications, leading to establishing, maintaining and enhancing relationships throughout the communities (Jacobs *et al.*, 2017).

As social media would change business models, workflows and decision-making, the evaluation behavior of users is worthy to explore (Cui *et al.*, 2018). The literature on social media suffers from complexities in describing the behavior of users in searching, consuming or using the information to cover both traditional evaluation skills like identifying the author and new ones like exploring multimedia and graphics. According to Wang *et al.* (2015), when social media content is delivered more democratically and neutrally, users are more likely to repeat using different types of them to search for information and make critical decisions. Therefore, user-generated information on social media in the form of voice, film, clip or music has a high rank in personal and organizational interests and usage (Kim, 2019; Klawitter and Hargittai, 2018).

Media literacy is an essential skill in the credibility evaluation of social media information, which is discussed in a wide variety of contexts. As defined by Livingstone (2004), media literacy is “the ability to access, analyze, evaluate and create messages across a variety of contexts.” Like television and the web, social media as a new form of media and information resource require new assessment skills. The characteristics of social media in producing and sharing information are unique in that the use of media literacy for the credibility evaluation of social media information becomes a pressing need. Gammon and White (2011) argued that while the media technologies have been changing in the past decades, but “the core focus of media literacy remains much the same— meeting the challenges of accessing, analyzing, evaluating and creating various media forms.” As a result, there is a crucial consideration on how competencies related to media literacy can be applied in new media and information environments like social media platforms.

To the best of our knowledge, no study has been conducted to investigate the association between media literacy and the credibility evaluation of social media information. In the existing literature, much attention has been paid to training programs of media and information literacies. Thus far, several studies have been conducted on either media literacy or the credibility evaluation of social media information. What can be understood from studies conducted is that the mean information literacy competencies ranged from medium to high over time, but the media literacy skills were prone to below and average at the same time (Koltay, 2011; Singh, 2012; Lee and So, 2013). Therefore, the present study aimed to investigate the impacts of media literacy on the credibility evaluation of social media information among students who are considered a major community of user groups.

Given the importance of credibility evaluation of social media information by users in new information environments and the review of the existing literature, this study sought to further examine this process among students of the Faculty of Psychology and Educational Sciences in Shahid Beheshti University. On the other hand, another goal of this study was whether or not the differences in social media platforms can affect the type of credibility evaluation of social media information. Specifically, whether or not the three popular platforms of WhatsApp, Instagram and Telegram with their unique features, show a significant difference in credibility evaluation of social media information.

2. Literature review

2.1 Media literacy: theoretical foundations

For the first time, Marshall McLuhan (1964) used the term “media literacy” in his book titled “Understanding Media: The Extensions of Man” in which he emphasized the need for new

literacy skills in upcoming electronic communications. That being said, John Calkin was the person who coined media literacy (Kemmerer, 2013). As a colleague of McLuhan, Calkin (1967, p. 51) argued that “the environments set up by different media are not just containers for people; they are processes which shape people.” This notion concerns much about the instructional issues of media literacy for people who are more involved like university students.

While various definitions of media literacy and its components are available in the related literature, there are some discrepancies, which may be due to differences in social and technical policies (Arke and Brian, 2009) underlying the use of the wide spectrum of media in societies. In the past half-century, media literacy has been defined in such disciplines as journalism, filmmaking, mass media and even in computer-mediated communication. According to Hobbs (1998), media literacy is the ability to evaluate media messages that operate on two levels. At one layer, the audience pays attention to the questions related to the creators, techniques and purposes in producing media messages while the audience would consider the hidden values and styles in the message at the second layer.

Media literacy could serve as a social judging filter by which messages pass through several layers of media literacy criteria in a more meaningful way. In this manner, the media message acts in three layers (Thoman, 1995). The first layer is about the importance of personal planning to use media through which the audiences are more careful about which programs they select to watch and how to decrease consumption by making purposeful use of media such as television, videos, electronic games and films. The second layer is where the audience pays more attention to the less tangible aspects of media and focuses on more profound questions about the creators and the advantage or disadvantages of the message. The third layer includes the necessary skills for critical scrutiny of the media. Potter (2004) is another media literacy scholar who proposed several theories in this regard. He has suggested four major factors of media literacy, namely, knowledge structures, personal *locus*, competencies and skills and the flow of information-processing tasks. Each of these factors works interactively in media systems.

In knowledge gap theory, mass media reinforces existing inequalities among people because of their jobs, incomes and social positions (Tichenor, Donohue and Olien, 1970). This theory does not explain how populations of lower status remain unskilled in using and evaluating a wide range of media messages. Instead, the proposition is that the growth of knowledge is relatively greater among the higher-ranked groups. Katz *et al.* (1973) uses and gratifications theory suggests that attention should be paid to a person’s psychological needs. This theory assumes that selecting and using media are purposive and motivating actions. Agenda-setting theory was developed by McCombs and Shaw (1972) as the “ability (of the news media) to influence the importance placed on the topics of the public agenda” (McCombs and Reynolds, 2002). The theory also suggests that media has a great effect on their audience by instilling what they should think instead of what they think.

Cultivation theory examines the long-term effects of the media in which “the independent contributions television viewing makes to viewer conceptions of social reality” (Gerbner *et al.*, 1994). The theory is divided into three orders including cognitive, attitudinal and behavioral issues. In passive and active theories, if we consider the active audience as a strong and resilient audience against the mass media, they can only affect the passive audiences. Moreover, if the target audience is active in using the media, the passive audiences will ignore the absence of purposefulness and reference to the media.

As social media are regarded as a new emerging form of information resources (Kim, Sin and Yoo-Lee, 2014), there have been limited efforts to theorize factors influencing their use as opposed to other media resources. While the above theories are efforts to make media use

and literacy more meaningful, there is less evidence of theories useful for evaluating social media information. What we know is that media literacy is a key competency beneficial for evaluating all media environments including social media. The current research seeks to explore this theoretical gap and its relationship.

2.2 Media literacy and information literacy

[Koltay \(2011\)](#) argued that media literacy and information literacy are similar, as they both require critical evaluation. Moreover, [Martin and Grudziecki \(2006\)](#) believed that both concepts highlight the importance of the media message; however, they differ from each other in the way the message is handled. In other words, while the term media literacy mainly focuses on how the message is constructed and interpreted, information literacy draws attention to the way it is accessed and evaluated.

[Van de Vord \(2010\)](#) examined the relationship between the critical evaluation of online information as a measure of information literacy and the components of media literacy, which resulted in a positive relationship. The findings also suggest that to succeed in the twenty-first century of the information society, educators need to use a wide variety of instrumental strategies to develop the information literacy skills needed for graduates and students. In a study, [Lee \(2012\)](#) put forward a network model strategy to promote media and information literacies in schools in the Hong Kong community. The model consists of five parts: the impetus to launch the network; the configuration of the network; the hubs of the network; the communication of the network; and the expansion of the network.

To [Singh \(2012\)](#), the best way to reduce students' tendency to refer to Google is to organize media and information literacy training programs for schools at all educational levels. Using both quantitative and qualitative methods, [Begum \(2015\)](#) concluded that 65% of respondents believe that launching a massive awareness campaign in educational institutions is the key to overcome these problems and making individuals more media and information literate.

[Withworth et al. \(2011\)](#) conducted a study to create an open educational resource to help postgraduate research students develop media and information literacy skills and suggested that this resource can help them to be creative, independent and autonomous. In another study, [Withworth \(2012\)](#) outlines a model that can be applied to understand and synthesize the different ways media and information literacies are conceived and then practiced. The results demonstrated that this model could be used to analyze a range of media and information literacies interventions, including tutorials, courses and a project in community education. [Wilson \(2012\)](#) presented an overview of UNESCO's Media and Information Literacy Curriculum for Teachers. This overview includes identifying key program areas for trainers to teach key issues related to media and information literacies and the competencies needed for developing programs.

[Lee and So \(2013\)](#) conducted research by the use of the Web of Science database from 1956 to 2012. The findings showed that the differences between media literacy and information literacy are higher than their similarities. They found that media literacy is not a subset of information literacy as some scholars have suggested, although the two fields have similarities. They share the same goal and their publications overlap in terms of subject areas, countries of origin and titles. The two fields could find common ground by cooperating to contribute to promoting new literacies in information-based societies.

2.3 Social media literacy

More recently, the concept of media literacy has been expanded, which is sometimes called digital literacy or digital media literacy. As new information environments start to emerge, a

need for new media literacies has been identified by many researchers. For example, [Festl \(2021\)](#) tried to investigate how different components of adolescents' social media literacy (knowledge, abilities and motivation) and aspects of their immediate social contexts (family and peers) influence their level of socially competent online behavior. The findings confirmed that adolescents' knowledge, abilities and motivation positively predicted a higher level of participatory-moral, communicative and educational behavior, with behavioral motivation playing the most influential role.

[Schreurs and Vandenbosch \(2020\)](#) developed Social Media Literacy (SMILE) model to conceptualize social media literacy, its dynamics between social media and its users and the participatory mediation processes that result in social media literacy. They argued that this model is illustrated against the background of the social media positivity bias. The model puts forward five assumptions that relate to empowering social media users and developing social media literacy. They believed that the SMILE model would address some fundamental shortcomings in media literacy and media effects literature by modeling an empowering and a development process of social media literacy.

[Yeh and Swinehart \(2020\)](#) investigated the characteristics and trends of English language learners use of social media and how language abilities and previous social media experience would affect their perceptions of anonymous user-generated content in an online discussion website (Reddit) and the strategies learners use to overcome the challenges they encounter in these online environments. The results indicate the importance of adding a sociocultural pragmatics component into the framework of social media literacy and were used to inform recommendations for future social media training programs.

[Allcott et al. \(2019\)](#) studied the role of social media platforms in combating and controlling misinformation. They found out that users were confused to determine the validity of the information because of its rapid transfer. The users were waiting for additional reliability and fact-checkers to gain social media literacy. Likewise, [Young \(2015\)](#) assessed new media literacies levels of social work students and educators. He successfully replicated the reliability of nine new media literacies and suggested that a qualitative research design could assist in developing improved skills. Moreover, [Chen et al. \(2011\)](#) proposed a conceptual framework for new media literacies consisted of four main dimensions of functional consuming, functional prosuming, critical consuming and critical prosuming media literacies.

Specifically, [Vanwynsberghe \(2014\)](#) defined social media literacy as "the set of technical, cognitive and emotional competencies required when using social media to search for information, for communication, content creation and problem-avoiding and problem-solving, both in a professional and a social context" (p. 102). The idea behind social media literacy is that users are not victims and that they have a certain level of control over what they do on social media. She identified factors affecting social media literacy including factors related to personal, context and technological issues. In her dissertation, Vanwynsberghe made an extensive literature review to conceptualize and operationalize social media literacy.

Recently, [Murawski et al. \(2019\)](#) stated that "most definitions and conceptual works of information literacy still consider information as 'static,' thereby ignoring its 'dynamic' character which is one key feature of information in the social media context." They coined the term "social media information literacy" to describe unique characteristics of social media information requiring a new realm of skills, which are different from other media resources. They developed a scale named SMIL incorporating eight skills of recognizing information need, searching information, obtaining information, understanding information, evaluating information, creating information, communicating information and re-evaluating information. There exist other envisions like meta-literacy, which is defined as a

“comprehensive model for information literacy to advance critical thinking and reflection in social media, open learning setting and online communities” (Jacobson and Mackey, 2013).

Vanwynsberghe *et al.* (2011) distinguished three dimensions of social media literacy including social media access, social media competencies and social media use to incorporate both critical and action-oriented approaches. In another study, Vanwynsberghe *et al.* (2015) stated that social media literacy includes three frameworks of technical, cognitive and affective competencies. There are also other efforts made to formalize social media literacy in a more practical way, especially in educational contexts. For example, Stanoevska-Slabeva *et al.* (2017) proposed a 7i Social Media Literacy Framework and sought to develop a tool for measuring it. Data were collected from 22 high school classes through an online-based survey in four German-speaking countries. The analysis confirmed that the more the students engage in professional social media use, the stronger are the effects on the objective of social media literacy. Moreover, the use of social media in class did not show a significant effect on self-assessed social media literacy.

3. Research objective and questions

The review of the abovementioned studies showed that there exists more emphasis on training programs in media and information literacies, whereas they did not examine the relationship that might exist between media literacy and credibility evaluation of social media information. Therefore, the present study aimed to investigate this relationship and its effects on university students. Specifically, the present study sought to answer the following questions:

- RQ1. Whether media literacy has a significant effect on the credibility evaluation of social media information as conducted by student users?
- RQ2. Do the differences between social media platforms make a significant difference in the credibility evaluation of social media information as conducted by student users?

4. Methods and materials

4.1 Participants

The study sample consisted of 150 students at the Faculty of Psychology and Educational Sciences located at the Shahid Beheshti University. As the access to students was not possible in terms of the type of application used, they were randomly assigned to one of the three groups in terms of which application they mostly used. The participants who used more than one of three major social media platforms in Iran including Instagram, WhatsApp and Telegram were divided into three groups ($n = 50$ per group). It was tried that the sample represents the actual demographic distribution in terms of gender, grade and discipline among the three groups.

4.2 Measurement instruments

4.2.1 *Media literacy.* Measuring media literacy is considered a challenging task (Schilder *et al.*, 2016) as it is regarded to be context-specific (Chen *et al.*, 2011) and researchers usually target specific populations and specific types of media messages such as mass media (Arke and Brian, 2009) or news (Ashley, Maksl and Craft, 2013). Moreover, many of the quantitative measures include self-assessment measures (Inan and Turan, 2012). Media literacy can be fully captured by multi-item measures due to its multi-dimensional concept, but the studies conducted are different with respect to constructing identification and

research methodologies. These methodological problems take the responsibility of inconsistent results of factor model studies in addition to different aspects of the context in which the research is conducted. Even with new media literacy scales (Koc and Barut, 2016; Lee *et al.*, 2015), there appear discrepancies among dimensions, target populations and media type.

More specifically, there seems to be a lack of validated measures on media literacy concerning the media environment of the web and in the form of social media as well. As states by Hobbs (2010), “There are so many dimensions of media and digital literacy that it will take many years to develop truly comprehensive measures that support the needs of students, educators, policymakers and other stakeholders.” As a result, a literature review was conducted with special regard to existing measures and the web context. The resulted conceptual framework and its derived questionnaire were then validated through semi-structured interviews with eight faculty members of the departments of Information Science located in Tehran, Iran. The final media literacy skills scale consisted of 30 items under the four main dimensions of media access and use; media analysis and assessment; communicating and critical thinking.

4.2.2. Credibility evaluation of social media information. Regarding the measurement of social media information, the gap was the same as media literacy. After a comprehensive review of the existing literature, a conceptual model (Keshavarz, 2020) was used as the underlying framework. The questionnaire derived from the conceptual model resulted in a 40-items scale including three main dimensions and 10 sub-dimensions. The three main dimensions included information source, information presentation and information credibility. Regarding the dimension information source, there are two sub-dimensions of profile and authority. In the dimension of information presentation, there are four sub-dimensions of content, links, layout and writing. In the dimension of information credibility, there are four sub-dimensions of objectivity, accuracy, currency and usability. The eight experts validated the second questionnaire as well to ensure its validity.

Through a pilot online study via Google Form among 30 volunteer students, Cronbach’s alpha was used to measure the initial reliability of the two questionnaires resulted in values of 0.917 and 0.865 for media literacy and social media information credibility, respectively. The reliability values were higher than 0.7, indicating that the results were reliable and the questionnaire is reliable for further distribution.

4.3 Data analysis

4.3.1 Method. Given the lack of well-developed theories in this area of research, we used the structural equation modeling (SEM) that is afforded by the partial least-squares (PLS) method. This modeling approach “makes minimal demands about measurement scales, sample size and the distribution of residuals” (Fornell and Bookstein, 1982, p. 449) and “avoids many of the restrictive assumptions underlying maximum likelihood techniques” (p. 440). The analysis was conducted using SmartPLS version 3.0, which allows a user to easily show the model as a path diagram and also to view the estimates of the model parameters in the same diagram.

4.3.2 Measurement model. Convergent validity was used to determine the construct validity by defining factor loadings, Cronbach’s alpha, average variance extracted (AVE) and composite reliability (CR) as suggested by Hair *et al.*, (2011). Discriminant validity ensures that the variables are not uni-dimensional for which Fornell–Larcker (FL) criterion and cross-loadings were used. Redundancy and R -square (R^2) were used to measure the explained variance (dependent/endogenous constructs). Finally, GoF was used as the global indicator for the goodness of fit of the model.

4.3.3 Structural model. To test the hypotheses incorporated in the model, a confirmatory factor analysis (CFA) was conducted. To investigate the CFA using SEM, a model was first created based on the type of constructs. Then, path coefficients and *t*-statistic were adopted for testing the hypotheses.

4.3.4. Criteria. The following cut-off values were applied during the data analysis:

- The AVE higher than 0.5 (Hair *et al.*, 2011; Latan and Ghozali, 2012);
- CR higher than 0.7 (Hair *et al.*, 2011; Latan and Ghozali, 2012);
- The square root of AVE higher than correlation among constructs (Latan and Ghozali, 2012); Cronbach's alpha higher than 0.6 (Hair *et al.*, 2011; Latan and Ghozali, 2012);
- Communality higher than 0.6 (Latan and Ghozali, 2012);
- Redundancy higher than zero (Latan and Ghozali, 2012);
- R^2 small = 0.02; R^2 medium = 0.13; R^2 large = 0.26 (Cohen, 1992);
- *t*-test values near 1.65, 1.96 and 2.58 were considered with significance levels of 10%, 5% and 1%, respectively (Hair *et al.*, 2011; Latan and Ghozali, 2012); and
- The GoF was obtained multiplying the square root of AVE by the average of R^2 (where AVE = 0.5, R^2 small = 0.02, R^2 medium = 0.13 and R^2 large = 0.26), thus, GoF small, medium and large = 0.10, 0.25 and 0.36, respectively (Latan and Ghozali, 2012; Wetzels *et al.*, 2009).

5. Findings

5.1 Demographics

The demographic profile is reported in Table 1. As shown, the majority of participants were female, with a BA degree and with less than 10 years of internet experience. The sample constituted of 150 students of which 50 used Instagram mostly, 50 used WhatsApp mostly and 50 used Telegram mostly.

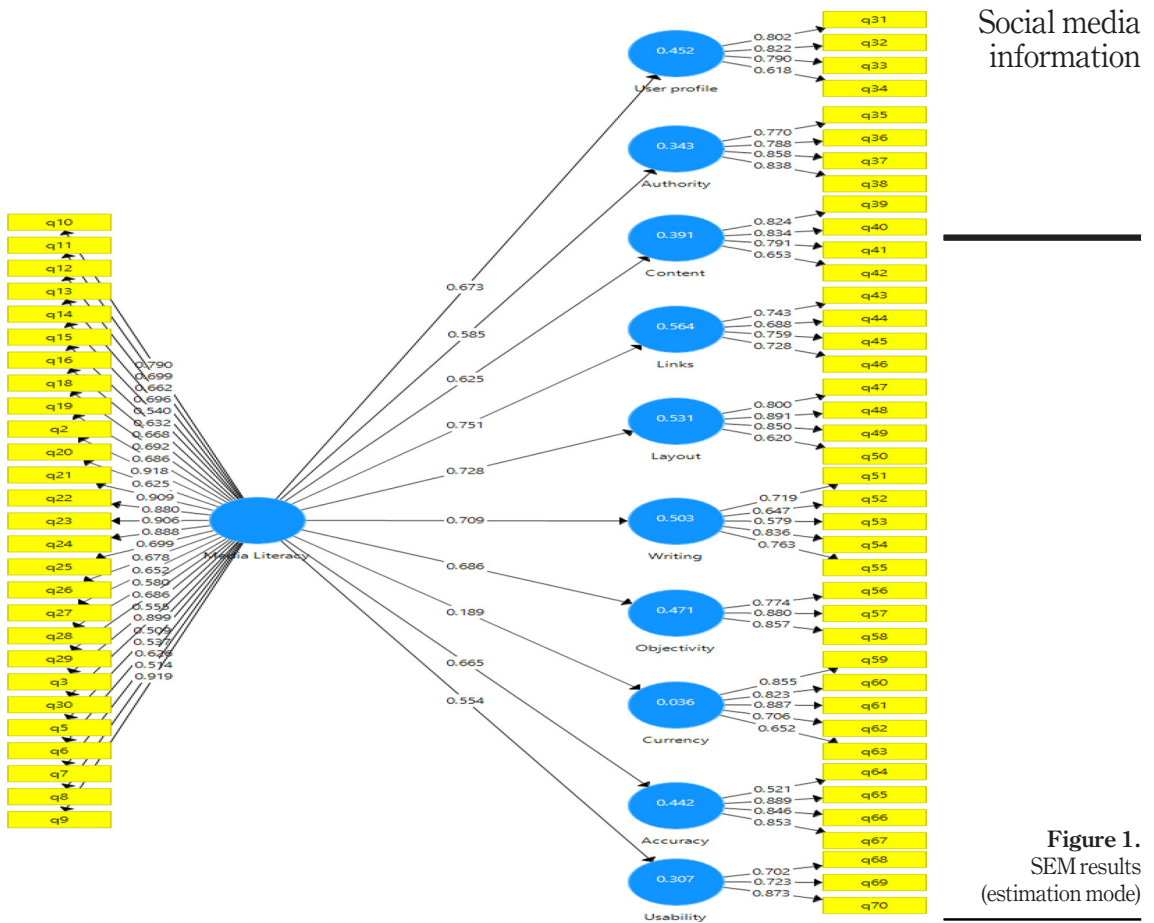
5.2 Measurement model

In the first stage of data analysis, path coefficients, outer loadings and R^2 values were calculated by SmartPLS (Figure 1).

As shown in Figure 1, path coefficients of hidden variables (i.e. constructs and their corresponding components) are presented as numbers between the blue circles. Moreover,

Measure	Item	(%) Frequency
Gender	Female	(68) 102
	Male	(32) 48
Grade	BA	(59) 88
	MA	(29) 43
	PhD	(12) 19
Field of study	Psychology	(48) 72
	Education	(35) 53
	Information science	(17) 25
Internet experience (years)	1–5	(35) 53
	6–10	(48) 72
	Over 11	(17) 25

Table 1.
Profile of the sample
(*n* = 150)



Social media information

Figure 1. SEM results (estimation mode)

R^2 values are shown inside these circles. Yellow rectangles are observed variables (i.e. questions of the questionnaires). As shown, questions 1, 4 and 17 on the media literacy scale were removed from the analysis because of their poor reliability. Numbers between components and rectangles are factor loadings related to each question.

5.2.1 Construct validity. Discriminant validity is established if the square root of the AVE of a measure is larger than its correlation coefficients with the other measures (Chin, 1998; Fornell and Larcker, 1981). This criterion was met by each of the scales (Table 2). For example, the value of the AVE square root was 0.828 for the variable of objectivity, which was higher than the correlation of that variable. Thus, it appears that the measured constructs have good reliability and convergent and discriminant validities.

5.2.2 Reliability indicators. To ensure item reliability, items need to load on their intended constructs with loadings higher than 0.5 (Hulland, 1999). The results (Table 3) showed that all factor loading values were higher than 0.5 and the t -values for each factor loading of the latent variables and their indicators were higher than 1.96, indicating that the significant

Table 2.
Properties of
measurement items

Constructs	AVE	CR	CA	1	2	3	4	5	6	7	8	9	10	11
<i>1. Objectivity</i>	0.703	0.876	0.786	0.828										
<i>2. Accuracy</i>	0.626	0.866	0.789	0.427	0.791									
<i>3. Media literacy</i>	0.515	0.925	0.947	0.686	0.665	0.717								
<i>4. Currency</i>	0.624	0.891	0.859	0.036	0.275	0.189	0.790							
<i>5. Layout</i>	0.636	0.873	0.804	0.620	0.607	0.628	0.220	0.797						
<i>6. Links</i>	0.533	0.820	0.711	0.652	0.583	0.651	0.260	0.761	0.730					
<i>7. Content</i>	0.607	0.860	0.783	0.563	0.455	0.625	0.337	0.638	0.761	0.779				
<i>8. Authority</i>	0.663	0.877	0.831	0.726	0.479	0.585	0.128	0.640	0.691	0.663	0.814			
<i>9. Writing</i>	0.510	0.837	0.759	0.462	0.543	0.709	0.211	0.685	0.666	0.620	0.502	0.714		
<i>10. User profile</i>	0.582	0.846	0.759	0.705	0.472	0.673	0.118	0.682	0.615	0.548	0.572	0.511	0.763	
<i>11. Usability</i>	0.592	0.812	0.703	0.453	0.360	0.554	0.325	0.608	0.610	0.592	0.548	0.574	0.432	0.770

Notes: AVE: Average variance extracted; CR: Composite reliability; CA: Cronbach's alpha. Italic cells on the diagonal are the square roots of AVE

Social media
information

Hidden variable	Observed variable	Factor loading	<i>t</i> -statistic	Result
<i>Media literacy</i>				
Media access and use	Q2	0.918	14.023	Supported
	Q3	0.555	7.652	Supported
	Q5	0.509	6.364	Supported
Media analysis and assessment	Q6	0.537	6.145	Supported
	Q7	0.624	8.743	Supported
	Q8	0.514	5.934	Supported
	Q9	0.919	15.132	Supported
	Q10	0.790	18.812	Supported
	Q11	0.699	13.557	Supported
	Q12	0.662	9.259	Supported
Communicating	Q13	0.696	13.409	Supported
	Q14	0.540	7.720	Supported
	Q15	0.632	10.283	Supported
	Q16	0.668	11.984	Supported
	Q18	0.692	9.425	Supported
	Q19	0.686	12.526	Supported
	Q20	0.625	11.248	Supported
Critical thinking	Q21	0.906	16.358	Supported
	Q22	0.880	14.733	Supported
	Q23	0.906	19.582	Supported
	Q24	0.888	17.365	Supported
	Q25	0.699	13.021	Supported
	Q26	0.678	11.583	Supported
	Q27	0.652	10.372	Supported
	Q28	0.580	8.130	Supported
	Q29	0.686	12.088	Supported
Q30	0.899	8.078	Supported	
<i>Credibility evaluation of social media information</i>				
User profile	Q31	0.802	19.394	Supported
	Q32	0.822	21.730	Supported
	Q33	0.790	17.668	Supported
	Q34	0.618	6.193	Supported
Authority	Q35	0.770	12.237	Supported
	Q36	0.788	13.800	Supported
	Q37	0.858	17.629	Supported
	Q38	0.838	22.163	Supported
Content	Q39	0.824	21.837	Supported
	Q40	0.834	25.479	Supported
	Q41	0.791	15.445	Supported
Links	Q42	0.653	6.706	Supported
	Q43	0.743	14.023	Supported
	Q44	0.688	9.860	Supported
	Q45	0.759	13.590	Supported
Layout	Q46	0.728	8.225	Supported
	Q47	0.800	18.97	Supported
	Q48	0.891	40.424	Supported
	Q49	0.850	32.869	Supported
Writing	Q50	0.620	8.369	Supported
	Q51	0.719	13.668	Supported
	Q52	0.647	8.582	Supported

(continued)

Table 3.
Factor loading and
t-statistic values

GKMC

Hidden variable	Observed variable	Factor loading	<i>t</i> -statistic	Result
Objectivity	Q53	0.579	6.679	Supported
	Q54	0.836	24.173	Supported
	Q515	0.763	13.877	Supported
	Q56	0.774	16.358	Supported
	Q57	0.880	29.669	Supported
Currency	Q58	0.857	20.929	Supported
	Q59	0.855	3.403	Supported
	Q60	0.823	4.040	Supported
	Q61	0.887	4.216	Supported
	Q62	0.706	2.910	Supported
Accuracy	Q63	0.652	2.953	Supported
	Q64	0.521	5.436	Supported
	Q65	0.889	32.500	Supported
	Q66	0.846	25.211	Supported
	Q67	0.853	31.383	Supported
Usability	Q68	0.702	5.515	Supported
	Q69	0.723	6.149	Supported
	Q70	0.873	20.142	Supported

Table 3.

level was less than 0.05. Therefore, the questionnaire items measured the concepts, which demonstrate their reliability.

According to the above-mentioned factor analysis, all indicators related to study variables had *t*-values higher than 1.96 and factor loading values higher than 0.5 which were regarded as acceptable.

5.2.3 Model fit. PLS does not provide a global goodness-of-fit (GoF) measure to indicate how well the model fits. Therefore, a measure appropriate for reflective indicators as suggested by [Tenenhaus et al. \(2004\)](#), called the GoF index was used as follows:

$$\text{GoF} = \sqrt{R^2 * \text{COMMUNALITY}}$$

As shown in [Table 4](#), the GoF value of the model was 0.491 (higher than 0.36) indicating that the general fit of the model was suitable (strong).

5.3 Hypothesis testing

Path coefficients and *t*-values with 0.01 significance level were used to test the hypotheses. The results are shown in [Table 5](#).

Overall, the path coefficients and the *t*-statistic values revealed that media literacy had a significant positive effect on the credibility evaluation of social media information at a 99% significance level. However, the impact of media literacy on currency, with a path coefficient of 0.189, was rejected.

5.4 Analysis of variance

In the analysis of variance (ANOVA), total dispersion originates in two sources: intra-group (inside the group) and inter-group (between groups). Part of the variance is due to the difference between groups and the research group (intergroup) and another part can be attributed to other factors like errors (intragroup). In the ANOVA, if the *p*-value is less than 0.05, there is a statistically significant difference between the mean of the groups and if the *p*-value is higher than 0.05, there is no significant difference between the mean of the groups.

Social media information

Constructs	R^2	Communality
Objectivity	0.471	0.703
Accuracy	0.442	0.626
Media literacy	-	0.515
Currency	0.036	0.624
Layout	0.531	0.636
Links	0.564	0.533
Content	0.391	0.607
Authority	0.343	0.663
Writing	0.503	0.510
User profile	0.452	0.582
Usability	0.307	0.592
GoF	0.404	0.599
	0.491	

Table 4.
The R^2 and
communality values

Variables	Path coefficient (β)	t -statistic	Path	Result
User profile	0.673	12.719**	Media literacy → user profile	Confirmed
Authority	0.585	7.827**	Media literacy → authority	Confirmed
Content	0.625	8.329**	Media literacy → content	Confirmed
Links	0.751	18.934**	Media literacy → links	Confirmed
Layout	0.728	15.771**	Media literacy → layout	Confirmed
Writing	0.709	16.326**	Media literacy → writing	Confirmed
Objectivity	0.686	10.550**	Media literacy → objectivity	Confirmed
Currency	0.189	1.380	Media literacy → currency	Rejected
Accuracy	0.665	9.163**	Media literacy → accuracy	Confirmed
Usability	0.554	11.416**	Media literacy → usability	Confirmed

Table 5.
Path analysis results

Note: ** $p < 0.01$

This test alone does not specify which of the means are significantly different; therefore, we used post hoc tests (if the p -value is higher than 0.05, there is no need for post hoc tests).

As can be seen from Table 6, all variables had p -values higher than 0.05, thus ANOVA yielded no significant results. In other words, the application used (Telegram, WhatsApp and Instagram) had no significant effects on the study variables.

6. Discussion

Data analysis results demonstrated that the conceptual model indicating the impact of media literacy on the credibility evaluation of social media information had the required validity measures. Evaluating the indices of measurement, structural and fit models in the PLS algorithm showed that the conceptual model of the relationship between the two variables was confirmed. Finding the relationship between the two variables was the most important contribution of the present study, which is consistent with the results of some previous related studies in other contexts (Shen *et al.*, 2019; Van de Vord, 2010).

This finding revealed that the level of media literacy of students evaluating traditional media such as television and the web could affect their type of evaluation on social media. However, an important point to keep in mind is that media literacy skills should be considered closely concerning each medium and users should increase their skills in using

GKMC

Constructs	Sources	The sum of squares	DF	The average of squares	F	Sig.
User profile	Intergroup	0.605	2	0.302	0.532	0.589
	Intragroup	83.511	147	0.568		
	Total	84.116	149			
Authority	Intergroup	1.011	2	0.505	0.638	0.530
	Intragroup	116.488	147	0.792		
	Total	117.498	149			
Content	Intergroup	0.000	2	0.000	0.000	1.000
	Intragroup	115.604	147	0.786		
	Total	115.604	149			
Links	Intergroup	0.318	2	0.159	0.227	0.797
	Intragroup	102.966	147	0.700		
	Total	103.284	149			
Layout	Intergroup	0.078	2	0.039	0.57	0.944
	Intragroup	99.176	147	0.675		
	Total	99.254	149			
Writing	Intergroup	0.247	2	0.123	0.218	0.805
	Intragroup	83.345	147	0.567		
	Total	83.592	149			
Objectivity	Intergroup	0.255	2	0.127	0.206	0.814
	Intragroup	91.004	147	0.619		
	Total	91.259	149			
Currency	Intergroup	0.683	2	0.342	0.589	0.556
	Intragroup	85.234	147	0.580		
	Total	85.918	149			
Accuracy	Intergroup	0.176	2	0.88	0.183	0.833
	Intragroup	70.491	147	0.480		
	Total	70.667	149			
Usability	Intergroup	0.117	2	0.059	0.105	0.900
	Intragroup	81.647	147	0.555		
	Total	81.764	149			

Table 6.
The ANOVA results
(applications:
Instagram,
WhatsApp and
telegram)

given media concerning their unique characteristics. In harmony with other research (Murawski *et al.*, 2019; Stanoevska-Slabeva *et al.*, 2017; Vanwysberghe, 2014) there appears a crucial need for media literacy aligned with the characteristics of social media.

Another important finding from the present study is the analysis of the paths and sizes of effects which media literacy causes on the credibility evaluation of social media information. Our results demonstrated that media literacy at the 99% confidence level could affect all sub-dimensions of the credibility evaluation of social media information, except for currency. The value of the path coefficients was higher than average, indicating the significant effect of media literacy on the sub-dimensions of the credibility evaluation of social media information.

The component links had the highest path coefficient value. This feature of social media that users can share information through multiple links captioned or annotated on texts, audios, images and animations seems to be of more interest to students when evaluating information. On the flip side, the currency had the lowest path coefficient value, which is of question. Many researchers (Metzger, 2007; Rieh and Danielson, 2007) have argued the importance of current references and the need to create updated links on websites and social media. In the traditional information environments, authors made such links between works by citing the work of others, which has been widely studied in academic and scientific communication. In the web-mediated information exchange and social media as well,

references are replaced by live links and it is necessary for information providers to carefully create links, especially in the form of hashtags, trends, invitation and membership links. Currency is one of the most important factors in the credibility evaluation of social media information, but as the information presented in these media is dynamic and subject to manipulation by people at different times, it made students less curious about this factor. Due to the simplicity of changing information, the currency rate on social media could be higher than other types of resources, but outdated information could also be presented in a new way. Manipulating and infusing the currency of information to the users is a way of deception. As information with no currency can be sent to a wide range of users, students must have the necessary skills to evaluate the currency of the information available on social media.

If we analyze the path coefficients obtained from 10 sub-dimensions in three main dimensions as a whole, other results will be obtained. Given that all path coefficient values obtained from information presentation were higher than 0.6, it could, therefore, be concluded that the media literacy of students had a higher effect on this dimension than the other two dimensions. Also, path coefficient values obtained from dimension information credibility were lower than 0.6 and its currency component had the lowest path coefficient value, it could, therefore, be concluded that the media literacy of students had a lower effect on this dimension than the other two dimensions. These findings suggest that students are greatly influenced by how information is presented and designed on social media. The aesthetic design of information presentation has caused students to be more interested in this dimension than the other two ones, while the meaning, expertise and nature of information are more important. In other words, students paid more attention to the information structure than its source, message and content. Given that media literacy literature places so much emphasis on content, message and source, there is a concern as to why these factors are less considered by students. The inability of many users to the content evaluation has resulted in more attention to other dimensions.

Further analysis of the data showed that media literacy had no significant effect on the credibility evaluation of social media information with respect to the application used (Telegram, WhatsApp and Instagram), the field of study and degree as well. No matter which application is used, media literacy can affect the credibility evaluation of social media information and social media platforms have had not much effect on this relationship, meaning that the student's perspective and type of use of these applications do not make a difference in their evaluation. Media literacy skill occurs synchronously with a variety of media such as newspapers, television, the internet and social media, but it is in great demand today, especially for people like students dealing with the use of information in a daily basis.

7. Limitations and implications

Access to the statistical population became very difficult with the COVID-19 pandemic and we had to send the rest of the questionnaires via email, which was very time-consuming. The current research was conducted among a limited number of students and its results should be considered cautiously. Importantly, other factors are influencing the credibility evaluation of social media information. Therefore, the 10 items considered in this research are fundamental but limited in terms of the whole range of effective factors.

Particular attention should be paid to the evaluation of the characteristics of the message and content in media literacy training programs, which is possible through critical thinking about information found. Given that the results of the present study showed that students pay less attention to the content-related criteria on social media, it is necessary to instruct them how to think critically when confronting a huge amount of information. To sum, the current research could make contributions theoretically and practically.

Theoretically speaking, media literacy was found important and related to the credibility evaluation of social media information. As a result, future research could consider this finding to consider when studying social media users' behaviors. Practically speaking, media and information literacy programs and instructors would find the result inspiring when organizing educational sessions and workshops. The findings could shed some light for policymakers when thinking about resolving the challenges of the credibility of social media information.

8. Conclusion

The main contribution of the present study to the existing literature is the effect of media literacy on the credibility evaluation of social media information. According to the results found, university students might be benefited from a range of skills in media literacy including media access and use, media analysis and assessment, communication and critical thinking to evaluate social media information. Besides, results demonstrated that students pay less attention to information sources and credibility compared to information presentation. There appears a crucial need for the students to be skilled in evaluating content and source alongside the presentation, otherwise, it might bring about negative consequences in their decision-making. Finally, yet importantly, no significant difference in the evaluation was observed among the students concerning the three applications of Instagram, WhatsApp and Telegram.

References

- Allcott, H., Gentzkow, M. and Yu, C. (2019), "Trends in the diffusion of misinformation on social media", *Research and Politics*, Vol. 6 No. 2, available at: <https://journals.sagepub.com/doi/pdf/10.1177/2053168019848554> (accessed 8 May 2021).
- Arke, E. and Brian, P. (2009), "Quantifying media literacy: development, reliability, and validity of a new measure", *Educational Media International*, Vol. 46 No. 1, pp. 53-56.
- Ashley, S., Maksl, A. and Craft, S. (2013), "Developing a news media literacy scale", *Journalism and Mass Communication Educator*, Vol. 68 No. 1, pp. 7-21.
- Begum, D. (2015), "Media and information literacy in Bangladesh: a case study of east west university", In Singh, J.G., Yee, S.J. and Culver, S.H (Eds), *Media and Information Literacy for the Sustainable Development Goals*, International Clearinghouse on Children, Youth and Media, Gothenburg, pp. 197-206.
- Chen, D.T., Wu, J. and Wang, Y.M. (2011), "Unpacking new media literacy", *Journal on Systemics, Cybernetics and Informatics*, Vol. 9 No. 2, pp. 84-88.
- Chin, W.W. (1998), "The partial least squares approach for structural equation modeling", in Macoulides, G.A. (Ed.), *Modern Methods for Business Research*, Lawrence Erlbaum Associates, Mahwah, NJ, pp. 295-336.
- Cohen, J. (1992), "A power primer", *Psychological Bulletin*, Vol. 112 No. 1, pp. 155-159.
- Cui, R., Gallino, S., Moreno, A. and Zhang, D.J. (2018), "The operational value of social media information", *Production and Operations Management*, Vol. 27 No. 10, pp. 1749-1769.
- Culkin, J. (1967), "A schoolman's guide to marshall McLuhan", *Saturday Review*, Vol. 18, pp. 51-53, 70-72.
- Festl, R. (2021), "Social media literacy and adolescent social online behavior in Germany", *Journal of Children and Media*, Vol. 15 No. 2, pp. 249-271.
- Fornell, C. and Bookstein, F.L. (1982), "Two structural equation models: LISREL and PLS applied to consumer exit-voice theory", *Journal of Marketing Research*, Vol. 19 No. 4, pp. 440-452.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.

-
- Gammon, M.A. and White, J. (2011), "(social) media literacy: Challenges and opportunities for higher education", In Wankel, C. (Ed.), *Educating educators with social media, Cutting-Edge Technologies in Higher Education: Vol. 1*, Emerald Group Publishing Limited, Bingley, pp. 329-345.
- Gerbner, G., Gross, L., Morgan, M. and Signorielli, N. (1994), "Growing up with television: the cultivation perspective", in Bryant J. and Zillmann D. (Eds), *LEA's Communication Series. Media Effects: Advances in Theory and Research*, Lawrence Erlbaum Associates, pp. 17-41.
- Hair, J.F., Ringle, C.M. and Sarstedt, M. (2011), "PLS-SEM: indeed a silver bullet", *Journal of Marketing Theory and Practice*, Vol. 19 No. 2, pp. 139-151.
- Hobbs, R. (1998), "The seven great debates in the media literacy movement", *Journal of Communication*, Vol. 48 No. 1, pp. 16-32.
- Hobbs, R. (2010), *Digital and Media Literacy: A Plan of Action*, The Aspen Institute, Washington, DC, D.C.
- Hong, I.B. (2015), "Understanding the consumer's online merchant selection process: the roles of product involvement, perceived risk, and trust expectation", *International Journal of Information Management*, Vol. 35 No. 3, pp. 322-336.
- Hulland, J. (1999), "Use of partial least squares (PLS) in strategic management research: a review of four recent studies", *Strategic Management Journal*, Vol. 20 No. 2, pp. 195-204.
- Inan, T. and Turan, T. (2012), "Examining media literacy levels of prospective teachers", *International Electronic Journal of Elementary Education*, Vol. 4 No. 2, pp. 269-285.
- Jacobs, W., Amuta, A.O. and Jeon, K.C. (2017), "Health information seeking in the digital age: an analysis of health information seeking behavior among US adults", *Cogent Social Sciences*, Vol. 3 No. 1, pp. 1-11.
- Jacobson, T.E. and Mackey, T.P. (2013), "Proposing a metaliteracy model to redefine information literacy", *Communifolit*, Vol. 7 No. 2, pp. 84-91.
- Katz, E., Blumler, J.G. and Gurevitch, M. (1973), "Uses and gratifications research", *Public Opinion Quarterly*, Vol. 37 No. 4, pp. 509-523.
- Kemmerer, D. (2013), "Media literacy", *Communication Research Trends*, Vol. 32 No. 1, pp. 4-23.
- Keshavarz, H. (2020), "Evaluating credibility of social media information: Current challenges, research directions and practical criteria", *Information Discovery and Delivery*, Information Discovery and Delivery, Epub ahead of print, available at: www.emerald.com/insight/content/doi/10.1108/IDD-03-2020-0033/full/html
- Kim, K.S., Sin, S.C.J. and Yoo-Lee, E.Y. (2014), "Undergraduates' use of social media as information sources", *College and Research Libraries*, Vol. 75 No. 4, pp. 442-457.
- Kim, H. (2019), "Credibility assessment of health information on social media: discovering credibility factors, operationalization, and prediction", PhD Dissertation, University of North Carolina.
- Klawitter, E. and Hargittai, E. (2018), "Shortcuts to well being? Evaluating the credibility of online health information through multiple complementary heuristics", *Journal of Broadcasting and Electronic Media*, Vol. 62 No. 2, pp. 251-268.
- Koc, M. and Barut, E. (2016), "Development and validation of new media literacy scale (NMLS) for university students", *Computers in Human Behavior*, Vol. 63, pp. 834-843, doi: [10.1016/j.chb.2016.06.035](https://doi.org/10.1016/j.chb.2016.06.035).
- Koltay, T. (2011), "The media and the literacies: Media literacy, information literacy, digital literacy", *Media, Culture and Society*, Vol. 33 No. 2, pp. 211-221.
- Kwahk, K.Y. and Park, D.H. (2016), "The effects of network sharing on knowledge-sharing activities and job performance in enterprise social media environments", *Computers in Human Behavior*, Vol. 55, pp. 826-839.
- Latan, H. and Ghozali, I. (2012), *Partial Least Squares: Concepts, Techniques and Applications Using SmartPLS 2.0 M3*, Diponegoro University Press.

-
- Lee, L., Chen, D.T., Li, J.Y. and Lin, T.B. (2015), "Understanding new media literacy: the development of a measuring instrument", *Computers and Education*, Vol. 85, pp. 84-93.
- Lee, A.Y.L. and So, C.Y.K. (2013), "Media literacy and information literacy: Similarities and differences", *Media Education Research Journal*, Vol. 21 No. 42, pp. 137-145.
- Lee, A.Y.L. (2012), "Promoting media and information literacy (MIL) in Hong Kong: a network model strategy", *In the International Conference on Media and Information Literacy for Knowledge Societies, Moscow*, pp. 254-271, available at: www.ifapcom.ru/files/News/Images/2013/mil_eng_web.pdf (accessed 1 July 2020).
- Livingstone, S. (2004), "What is media literacy?", *Intermedia*, Vol. 32 No. 3, pp. 18-20.
- McCombs, M. and Reynolds, A. (2002), "News influence on our pictures of the world", in *Media Effects: Advances in Theory and Research*, 2nd ed., Mahwah, LEA, pp. 1-18.
- McCombs, M. and Shaw, D.L. (1972), "The Agenda-Setting function of mass media", *Public Opinion Quarterly*, Vol. 36 No. 2, pp. 176-187.
- McLuhan, M. (1964), *Understanding Media: The Extensions of Man*, McGraw Hill, New York, NY.
- Martin, A. and Grudziecki, J. (2006), "DigEuLit: concepts and tools for digital literacy development", *Innovation in Teaching and Learning in Information and Computer Sciences*, Vol. 5 No. 4, pp. 249-267.
- Metzger, M.J. (2007), "Making sense of credibility on the web: Models for evaluating online information and recommendations for future research", *Journal of the American Society for Information Science and Technology*, Vol. 58 No. 13, pp. 2078-2091.
- Murawski, M., Bühler, J., Böckle, M., Pawlowski, J.M. and Bick, M. (2019), "Social media information literacy – what does it mean and how can we measure it?", in Sappas, I.O., Mikalef, P., Dwivedi, Y.K., Jaccheri, L., Krogstie, J. and Mäntymäki, M. (Eds), *Digital Transformation for a Sustainable Society in the 21st Century, 18th IFIP WG 6.11 Conference on e-Business, e-Services, and e-Society, I3E 2019 Trondheim, Norway, September 18–20, Cham, Springer*, pp. 367-379.
- Potter, W.J. (2004), *Theory of Media Literacy: A Cognitive Approach*, Sage, Thousand Oaks, CA.
- Rieh, S.Y. and Danielson, D. (2007), "Credibility: a multidisciplinary framework", *Annual Review of Information Science and Technology*, Vol. 41 No. 1, pp. 307-364.
- Schilder, E., Lockee, B. and Saxon, D. (2016), "The challenges of assessing media literacy education, journal of media literacy education", *Journal of Media Literacy Education*, Vol. 8 No. 1, pp. 32-48.
- Schreurs, L. and Vandenbosch, L. (2020), "Introducing the social media literacy (SMILE) model with the case of the positivity bias on social media", *Journal of Children and Media*, Vol. 15 No. 3s, doi: [10.1080/17482798.2020.1809481](https://doi.org/10.1080/17482798.2020.1809481).
- Shen, C., Kasra, M., Pan, W., Benefield, G., Malloch, Y. and O'Brien, J. (2019), "Fake images: the effects of source, intermediary, and digital media literacy on contextual assessment of image credibility online", *New Media and Society*, Vol. 21 No. 2, pp. 438-463.
- Singh, J. (2012), "Placing media and information literacy at the core of instruction", *In International Conference on Media and Information Literacy for Knowledge Societies, Moscow*, pp. 168-174, available at: www.ifapcom.ru/files/News/Images/2013/mil_eng_web.pdf (accessed 1 July 2020).
- Stanoevska-Slabeva, K., Mueller, S., Lippe, S., Seufert, S., Hagel, S., Lischeid, T., Ott, M. and Brocke, V. (2017), "Modeling and measuring social media literacy of digital natives in the example of the lake constance region", *In ICIS 2017 Proceedings, Seoul*, available at: <http://aisel.aisnet.org/icis2017/IS-urriculum/Presentations/9> (accessed 1 July 2020).
- Tenenhaus, M., Amato, S. and Vinzi, E.V. (2004), "A global goodness-of-Fit index for PLS structural equation modeling", *In Proceedings of the XLII SIS Scientific Meeting, Padova CLEUP*, pp. 739-742.
- Thoman, E. (1995), *Beyond Blame: Challenging Violence in the Media*, Center for Media Literacy, Los Angeles.
- Tichenor, P.A., Donohue, G.A. and Olien, C.N. (1970), "Mass media flow and differential growth in knowledge", *Public Opinion Quarterly*, Vol. 34 No. 2, pp. 159-170.

-
- Van de Vord, R. (2010), "Distance students and online research: Promoting information literacy through media literacy", *The Internet and Higher Education*, Vol. 13 No. 3, pp. 170-175.
- Vanwynsberghe, H., Vanderlinde, R., Georges, A. and Verdegem, P. (2015), "The librarian 2.0: identifying a typology of librarians' social media literacy", *Journal of Librarianship and Information Science*, Vol. 47 No. 4, pp. 283-293.
- Vanwynsberghe, H. (2014), "How users balance opportunity and risk: A conceptual exploration of social media literacy and measurement", PhD Dissertation: Ghent University. Faculty of Political and Social Sciences, Ghent.
- Vanwynsberghe, H., Boudry, E. and Verdegem, P. (2011), "Mapping social media literacy: towards a conceptual framework. Brussels, leuven and ghent, Belgium: User empowerment in a social media culture", available at: <https://docplayer.net/53435576-Mapping-social-media-literacy.html> (accessed 1 July 2020).
- Wang, Z., Hou, T., Song, D., Li, Z. and Kong, T. (2015), "Detecting review spammer groups via bipartite graph projection", *The Computer Journal*, Vol. 59 No. 6, pp. 861-874.
- Wetzels, M., Odekerken-Schroder, G. and Van Oppen, C. (2009), "Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration", *MIS Quarterly*, Vol. 33 No. 1, pp. 177-195.
- Wilson, C. (2012), "Media and information literacy: Pedagogy and possibilities", *Comunicar*, Vol. 20 No. 39, pp. 15-22.
- Withworth, A., McIndoe, S. and Withworth, C. (2011), "Teaching media and information literacy to postgraduate researchers", *Innovation in Teaching and Learning in Information and Computer Sciences*, Vol. 10 No. 1, pp. 35-42.
- Withworth, A. (2012), "The design of media and information literacy", *In International Conference on Media and Information Literacy for Knowledge Societies, Moscow*, pp. 40-54, available at: www.ifacom.ru/files/News/Images/2013/mil_eng_web.pdf (accessed 1 July 2020).
- Yeh, E. and Swinehart, N. (2020), "Social media literacy in L2 environments: navigating anonymous user-generated content", *Computer Assisted Language Learning*, doi: [10.1080/09588221.2020.1830805](https://doi.org/10.1080/09588221.2020.1830805).
- Young, J.A. (2015), "Assessing new media literacies in social work education: the development and validation of a comprehensive assessment instrument", *Journal of Technology in Human Services*, Vol. 33 No. 1, pp. 72-86.
- Zhang, Y., Yeo, H., Li, X. and Hwang, H. (2020), "Consumer use pattern and evaluation of social media based consumer information source", in Arai, S., Kapoor S. and Bhatia R. (Eds), *Advances in Information and Communication, FICC 2020. Advances in Intelligent Systems and Computing, 1130*, Springer, Cham. pp. 805-813.

Futher reading

- Fuchs, C. (2014), *Social Media: A Critical Introduction*, Sage, London.
- Pena, L.L. (2019), "Use of Social Media to Enhance Nonprofit Organizational Decision-Making", PhD Dissertation, Walden University.

Corresponding author

Hamid Keshavarz can be contacted at: keshavarzsina@gmail.com

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com