AOSIS

The social integration experiences of international doctoral students at Russian universities

CrossMark
click for updates

Authors:
Nurudeen Abdul-Rahaman[1]
Evgeniy Terentev[1]
Issah Iddrisu[2]

Affiliations:
[1]Department of Education, Faculty of Education, The National Research University, Higher School of Economics, Moscow, Russia

[2]Department of Education, Faculty of Education, University for Development Studies, Tamale, Ghana

Corresponding author:
Nurudeen Abdul-Rahaman, nurudeenkuberke@gmail.com

Social integration (SI) plays a critical role in doctoral students' success. However, SI experiences could differ depending on the characteristics of students and their programmes. The study investigates differences in the SI of doctoral students at Russian universities and identifies the main groups at risk who have more difficulties with SI. To achieve this, the study utilized data from a cross-institutional online survey of doctoral students conducted in 2021 on behalf of the Russian Ministry of Science and Higher Education. A total of 4,454 doctoral students from 249 universities responded to the survey. Findings from the study indicate international students were less socially integrated in terms of having more friends and having problems interacting with others, either in person or remotely. Generally, no clear and significant difference was observed between their experiences and all aspects of social integration analysed in the study. Secondly, international doctoral students (IDS) are divided into groups (groups with low SI scores and groups with high SI scores) and compared them in terms of their subjective assessment of their chances for defence during the normative period of their studies and their overall satisfaction with the doctoral programme. The results for both variables revealed significant differences between IDS and varying degrees of SI. Significantly, the IDS group with a higher SI score reported high chances of defending their dissertation within the normative period of five years. The study concludes by suggesting that that activities that foster informal communication should be implemented and standardized within all departments in Russian universities to properly absorb all doctoral students into the social and academic cultures of their universities.

Keywords: social integration; department; international student; domestic student; attrition persistence.

Introduction

International students' persistence in doctoral studies is greatly increased when they are fully incorporated into the social structure of their institutions and programmes (Ruud et al. 2018). It is widely acknowledged that the compatibility between doctoral students and their various departments is critical in helping students integrate socially at their institution, further boosting their perseverance and success (Hixenbaugh, Dewart & Towell 2012; Settle 2011; Hixenbaugh et al., 2012). However, doctoral students' social integration (SI) experiences are viewed generally rather than regarding various departments, despite the importance of the university department in ensuring that doctoral students are socially integrated (Gardner 2010). Furthermore, most of the research on SI in doctoral education focuses on students in higher education without distinguishing between international and domestic students, as evidenced in studies by Rockinson-Szapkiw et al. (2014), Rigler et al. (2017), Sverdlik et al. (2018), Holmes and Rockinson-Szapkiw (2020) and Piepenburg and Beckmann (2021). Also, no such study investigates SI between international and domestic doctoral students in the Russian context. However, Russia has a large doctoral education system and a significant share of international doctoral students (IDS), making it interesting and important for the current analysis.

This study explores the SI experiences of doctoral students in Russian university departments. The authors postulate that IDS may find it challenging to integrate socially into their university departments in Russia because of the diverse educational cultures of their home countries. The findings of this study will add vital knowledge and understanding of the elements inside university departments that promote SI among doctoral students in the Russian setting, which will influence departmental procedures at universities across the country.

The following two research questions guided the study:

- Is there a difference in the level of social integration between international and domestic doctoral students?
- Does the lower level of social integration among IDS relate to lower satisfaction with the doctoral programme and lower expectations regarding the time to degree?

Doctoral education in Russia

The Russian doctoral education system is among the world's top 10 biggest. In 2021, 90 156 doctorates studied at Russian universities and research institutes, 27 992 new doctoral students entered doctoral programmes and 14 326 graduated from doctoral programmes.[1] During the 1990s and 2000s, doctoral education in Russia experienced dramatic massification, almost tripling the number of doctoral students (from 53 541 in 1994 to 157 437 in 2010). However, in the 2010s, it faced massive criticism regarding the quality of research produced by doctoral candidates and corruption (Terentiev, Bekova & Maloshonok 2018). These critics laid the foundation for a list of reforms that dramatically changed the status and content of doctoral programmes and the structure of doctoral students' bodies (Maloshonok & Terentev 2019). Among the most prominent changes was the dramatic decrease in the number of doctorates.

Traditionally rooted in the master-apprentice model, before 2012, the doctoral education system in Russia had a research training programme with very few educational activities and focused primarily on preparing a thesis. To obtain a candidate of science degree, the applicant had to pass through three qualification exams, publish at least one or two papers (depending on the area of research) in the approved list of journals and prepare and defend a text of a thesis (to see more: Maloshonok & Terentev 2019).

After adopting the new Federal Law 'On Education in the Russian Federation', doctoral programmes became the third higher education level. This resulted in substantial changes, which were made to the system of doctoral education. Firstly, it significantly increased the volume of coursework. Under the new model, doctoral students must take classes for 30 credits (mostly in their area of specialization) and complete research and teaching internships during their studies (Terentev, Bekova & Maloshonok 2021). After the completion of the educational programme (in three or five years, depending on the area and mode of study), the doctoral candidate must pass through the comprehensive exam consisting of two parts – presentation of educational and methodological materials based on the results of the thesis and presentation of the research report with main results of the thesis study. Completing the comprehensive exam enables one to receive the diploma with the qualification of 'Researcher. Lecturer' (which allows teaching in master programmes) and opens the way towards the defence. Oral defence before the dissertation council is mandatory to obtain a degree. Also, new requirements on publications for doctoral candidates were adopted, which increased the minimum

1. See https://rosstat.gov.ru/statistics/education.

number of papers published before the defence to two or three, depending on the study area.

In the 2010s, many efforts were made for the internationalization of doctoral education in Russia. The government and certain (especially leading) universities introduced special programmes aimed at financial support of incoming mobility for international students (Woodman et al. 2022). As a result, there was a significant increase in IDS at Russian universities and research institutes – from 3471 in 2010 to 7871 in 2019. In 2019, the IDS shared among all doctoral students were 9%. The main donors of IDS for the Russian system of doctoral education are post-Soviet countries (about 40% out of all IDS) and Asia and the Middle East region (about half out of all IDS).

Despite many efforts made on the national and institutional levels, the quality of doctoral education is yet questionable and receives many critics (see Terentev et al. 2021). Among the main points of critics is the low completion rate of doctoral programmes. In 2021, only 1500 graduates of doctoral programmes defended their theses during the formative period, which equals 11% out of all graduates. Another problem is the absence of financial aid. The government subsidizes doctoral studies, and doctoral students receive scholarships, but these are insufficient to be considered a principal source of income. As a result, many doctoral students seek full-time work elsewhere (Bekova & Dzhafarova 2019). Other systematic issues discussed in the literature include poor supervision, incompleteness of reforms, ineffective mechanisms of doctoral students' selection and unpreparedness of universities and research institutes for the massification of doctoral programmes (see Maloshonok & Terentev 2019). Effective responses to these issues require further empirical studies on different aspects of doctoral education. This study aims to contribute to this task and focus on the SI of doctoral students at Russian universities (with a special focus on IDS).

Literature review
The concept of social integration

Social integration can be understood as the frequency and quality of interactions with colleagues (other doctoral students or faculty members) from the student's department outside of the workplace and about matters other than academic ones (Golde 2000; Meeuwisse et al. 2010; Van Rooij, Fokkens-Bruinsma & Jansen 2019). Holmes and Rockinson-Szapkiw (2020) defined SI as the student's satisfaction with the nature and quality of non-academic interactions between students and professors inside the programme.

The role of the department in the social integration of doctoral students

International doctoral students' first contact with their university department and its staff happens at admission, upon arrival at the institution and the commencement of their educational programme. This interaction continues throughout

their studies (Brooman & Darwent 2014; Hughes & Smail 2015). It was discovered that positive interactions with departmental members and peers increase the likelihood that IDS will persevere and succeed in their doctoral projects, demonstrating that departments significantly impact student integration into the social environment of universities (Zhou & Okahana 2019). Scholars assert that positive student–department interactions facilitated students' integration into academic disciplines and departments, a crucial factor for doctoral retention and completion (Cockrell & Shelley 2011; Zhou & Okahana 2019). Researchers argued that doctoral student retention required integration and participation in disciplines (Golde 2005) and academic departments (Herzig 2002). Other researchers found close relationships among departmental members and doctoral students were productive in helping students select dissertation committee members, which is crucial for the timely completion of doctoral programmes (Wao & Onwuegbuzie 2011). Thus, it is unsurprising that departmental academic support, such as foundation language courses for IDS, was associated with their success (Gardner 2008; Greene 2015).

Furthermore, doctoral completion was positively correlated with departmental activities and attitudes towards students (De Valero 2001). In addition, IDS who participated in engagement activities within the department, such as student groups and associations, experienced stress reduction and improved completion rates (Kearns, Gardiner & Marshall 2008). Other stream studies revealed high adaptability to the social systems of the university in which IDS are enrolled reduces attrition (Ellis 2001; Gardner 2007; Lovitts 2001).

Social integration in doctoral studies

Studies have found a high correlation between SI and success, development and contentment (Bair & Haworth 2004; Lovitts 2001; Shin et al. 2018). Individual factors, the microenvironment (such as the department, programme, classmates and professors) and the microenvironment influence the completion of doctoral degrees (Lovitts 2005). Researchers discovered that contacts with other faculty members and quality mentoring, encouragement and constructive criticism are among the most significant predictors of doctoral students' satisfaction, persistence and general welfare (Gardner 2007; Lovitts 2001; Vekkaila, Pyhältö & Lonka 2014). For instance, Weidman and Stein (2013) discovered an association between the number of interactions between faculty and students and their involvement in research initiatives. Cockrell and Shelley (2011) revealed a substantial association between support systems and student happiness, indicating that doctoral programmes should improve support systems to reduce student attrition. Espino (2014) discovered in a study of minority graduate students that doctorate students benefited from socialization in academic contexts and support from their families, communities and graduate environments. Vekkaila et al. (2014) found that doctoral students' perceptions of participation in and belonging to academic communities affected their positive experiences, well-being, contentment and persistence in doctorate studies. According to Piepenburg

and Beckmann (2021), IDS who are not properly absorbed into their university's social and intellectual culture will abandon their chosen field of study. According to reports, a lack of social interaction is one of the primary reasons German IDS drop out (Isleib, Woisch & Heublein 2019; Piepenburg & Beckmann 2021).

Considering the numerous positive effects of SI on the success of IDS, the literature has emphasized the department's and faculty's role in enhancing SI. Rigler et al. (2017) reported that isolation was a major factor in the attrition of doctoral students. Through their departments, doctoral programmes must create effective offline and online socialization opportunities for students to combat student isolation. According to the best practices within departments in institutions, Rockinson-Szapkiw et al. (2014) and Stallone (2011) reaffirmed that cohort models, social networking technologies and study or collaboration groups were effective ways to increase socialization among doctoral students. Janta, Lugosi and Brown (2014) focused on how departments can enhance doctoral students' SI. Among the interaction opportunities cited by the researchers are welcome parties for new participants, social gatherings to commemorate the achievement of significant milestones, lunchtime seminars that combine food and academic discussion and other social gatherings. According to Merola et al. (2019), institutions should prioritize enhancing the social capital of students through techniques such as small-group instruction, which promotes interaction and academic performance. They further indicated that interventions that can improve students' social capital and academic integration include working in groups or pairs during class and promoting peer tutoring.

International doctoral students' SI is also unique to the discipline of study and research group status. The discipline, and its organizational structure in the university via a department, serves as the focal point for the student experience (Golde 2005). Vekkaila et al.'s (2014) research revealed that behavioural science doctoral students had a low sense of community involvement. The authors attributed this to the study style followed in their field. They underlined that the behavioural sciences are a subset of the soft sciences and are occasionally characterized by solitary research in libraries, archives or the field. Golde (2005) found that doctoral students in the natural sciences have high SI, which is in line with an earlier study by Chiang (2003). Walsh (2010) reported that IDS in engineering and science had difficulty integrating with the student body because of their rigorous schedules and cultural and communication differences. A subsequent study (Gardner 2010) discovered that doctoral students in English and oceanography were more socially integrated.

A recent study by Antilla, Sullanmaa and Pyhältö (2021) found that full-time domestic students felt lonelier and more insecure than domestic part-time students. They underlined that in contrast to full-time doctoral students who largely rely on the researcher community, having many responsibilities at once may shield part-time students from the social isolation

or solitariness that has frequently been reported in related doctoral studies. Antilla et al. (2021) also pointed out that doctoral students who worked primarily or partially in a research group experienced loneliness more frequently than those who worked alone. This resulted in students working in research groups having higher expectations for social support and a sense of belonging than students working alone.

Other studies comparing SI between domestic and international students include Cena, Burns and Wilson (2021) and Spencer-Oatey et al. (2017). Only a few have examined these differences using large sample size, like this study. The study of Terentev et al. (2021) indicated a high attrition rate among Russian doctoral students. Yet, the preceding literature demonstrates a few studies identified in the broader context investigating SI among doctoral students based on nationality (domestic and international), the discipline of study and several years of study. There is a general lack of studies in the Russian context on this research topic.

Theoretical framework

Tinto (1993) used the lens of integration to describe the phenomenon of doctoral student attrition. He emphasizes the importance of students' social and intellectual integration within their universities for determining their perseverance in doctoral programmes (Tinto 1993:50). He distinguished two unique integration systems: academic and SI, and described both. Academic integration is defined as students' exposure to the research world and academic environment, whereas SI is defined as students' interactions within the university's social structures (Tinto 1993). He indicated that students enter university with various personal characteristics, including nationality, prior educational background and personal goal commitments. The successful interaction of these characteristics and university characteristics results in adequate integration. According to him, when students are thoroughly incorporated into the social systems of their host universities, their retention and perseverance in higher education improve significantly. He asserted that students who positively interact with their university environment are more likely to stay and eventually succeed in their studies and vice versa. This means that university structures must-have features that immediately make students feel accepted, engage them in university activities and provide a supportive environment for students to speak to one another, supervisors and other university employees.

Tinto's theory was used to understand how various parts of interactive experiences within university departments vary between domestic and international doctoral students in various years of study and students in different fields. In this study, the nationality of students (domestic and international), field and year of study are considered individual attributes. In the departmental environment, which consists of other students, staff are the institutional attributes. The theory is used to analyse the effect of the interplay of these institutional and individual attributes on students' social well-being.

Students perform better in situations that: (1) promote student-to-student connection; (2) promote student-to-staff engagement; (3) treat all students fairly; (4) promote a sense of belonging; and (5) actively engage students. While this theory was developed at the institutional level, the authors believe it is worthwhile to apply it at the departmental level to increase the understanding of what institutions can do to improve student retention and reduce dropout rates among doctoral students and what individual departments can do.

Research Methods and design
General overview

A cross-institutional online survey was used to analyse doctoral students' views on SI experiences during their studies at Russian universities. This survey was conducted in May – June 2021 on behalf of the Russian Ministry of Science and Higher Education under the project 'Scientific and methodological support for the development of quality management system of higher education in the conditions of coronavirus disease 2019 (COVID-19) pandemic and after'.[2] The survey's main goal was to analyse the challenges and opportunities for developing doctoral education quality at Russian universities during the pandemic. The questionnaire covered the following topics: (1) satisfaction with the university learning conditions and services, (2) characteristics of interaction with a supervisor and other university staff and satisfaction with this interaction, (3) main obstacles during the doctoral study and (4) professional goals and plans. Questions about SI and its different dimensions were at the core of the second series of questions (interactions with a supervisor and university staff).

Study population and sampling strategy

The targeted sample for the survey was all doctoral students who had studied at Russian universities at the time of the survey. To access the respondents, the authors used letters of support from the Russian Ministry of Science and Higher Education, which were delivered to all Russian universities via the Ministry's electronic system. Letters were addressed to rectors of universities and asked to share the link with their students. Participation in the survey was voluntary.

A total of 4454 doctoral students from 249 universities participated in the survey, which equals 9.0% of all doctoral students at Russian universities. The main characteristics of the sample are presented in Table 1: 91.2% of respondents are domestic students and 52.6% are male. Most of the doctoral students were in their first year of study (38.7%).

Data collection

To measure the SI experiences of doctoral students, the authors used six the following questions, which were formulated in the form of statements: (1) 'I have friends in my department', (2) 'I feel like I belong to the department', (3) 'I am proud to be

a doctoral student of my department', (4) 'My department creates a welcoming and supportive environment', (5) 'I can always talk (in person or remotely) with my department', and (6) 'Faculty of my department/school/institute treat me fairly'. All questions were measured on a five-point Likert scale (ranging from 1 – strongly disagree to 5 – strongly agree). The authors used a four-point Likert scale (ranging from 1– my

chances are high to 4 – I don't think I will be able to defend my dissertation in five years) to evaluate international students' expectations about the defence period. Lastly, the authors measured international students' satisfaction with the quality of their programmes using a four-point Likert scale (ranging from 1– satisfied to 4 – dissatisfied).

Data analysis

After attaining the desired response threshold, the survey data were analysed separately based on six dimensions of SI. A five-point Likert scale (ranging from 1 – strongly disagree to 5 – strongly agree) was used to assess the themes of this research. The number of items used to measure each of the themes is presented in Table 2. The chi-square analysis method was used to analyse the experiences of domestic and IDS regarding the various aspects of social interaction within their university departments. The mean SI scores were then compared between domestic and IDS.

Results

Survey results show the generally high subjective evaluation of doctoral students' SI at Russian universities (Figure 1). More than 75% of doctoral students, who participated in the survey, somewhat or strongly agreed with all statements. Bigger shares of those who responded with options 'Somewhat disagree' and 'Disagree' were observed for the statements about having friends and a sense of belonging to the department (19% and 18%, respectively). Almost all participants agreed that the faculty of their department treated them fairly (91%) and that they could always talk with the faculty of their department (89%).

The results showed that 45% and 41% of the domestic and international students strongly agreed that they have friends in their department/school/institute (χ^2 = 11.5, p = 0.022). In comparison, similar proportions of 40% and 45% of domestic and international students respectively felt like

TABLE 1: Socio-demographics of the respondents.

Characteristics (N = 4454)	Frequency	Percentage
Nationality		
Domestic	4063	91.2
International	391	8.8
Gender		
Male	2111	47.4
Female	2343	52.6
Marital status		
Married	1984	44.5
Year of study		
Year 1	1724	38.7
Year 2	1272	28.6
Year 3	956	21.5
Year 4	437	9.8
Year 5	27	0.6
Others	38	0.9
Field of study		
Natural science	642	14.4
Engineering	536	12.0
Computer science	379	8.5
Medicine	684	15.4
Agriculture	286	6.4
Social science	542	12.2
Economics	332	7.5
Law	183	4.1
Humanities	396	8.9
Other	474	10.7
Mode of study		
Full-time	3538	79.4
Part-time	871	19.6
Combination (full and part-time)	45	1.0

TABLE 2: Doctoral students' experiences with aspects of social integration.

| Aspects of social integration	Strongly disagree	Percentage	Disagree	Percentage	Undecided	Percentage	Agree	Percentage	Strongly agree	Percentage	Chi-square	P
I have friends in my department												
Domestic	307	7.6	434	10.7	198	4.9	1302	32.0	1822	44.8	11.5	0.022
International	37	9.5	49	12.5	31	7.9	115	29.4	159	40.7		
I feel like I belong to my department												
Domestic	246	6.1	514	12.7	187	4.6	1487	36.6	1629	40.1	6.1	0.192
International	22	5.6	41	10.5	23	5.9	129	33.0	176	45.0		
I am proud to be a doctoral student in my department												
Domestic	142	3.5	235	5.8	243	6.0	1423	35.0	2020	49.7	18.7	0.001
International	8	2.0	16	4.1	21	5.4	108	27.6	238	60.9		
My department creates a welcoming and supportive environment												
Domestic	117	2.9	239	5.9	203	5.0	1362	33.5	2142	52.7	17.8	0.001
International	12	3.1	17	4.3	25	6.4	95	24.3	242	61.9		
I can always talk (in person or remotely) with my department												
Domestic	74	1.8	217	5.3	145	3.6	1277	31.4	2350	57.8	10.6	0.032
International	6	1.5	32	8.2	21	5.4	106	27.1	226	57.8		
My department treats me fairly												
Domestic	45	1.1	107	2.6	193	4.8	1316	32.4	2402	59.1	5.1	0.282
International	7	1.8	12	3.1	21	5.4	108	27.6	243	62.1		
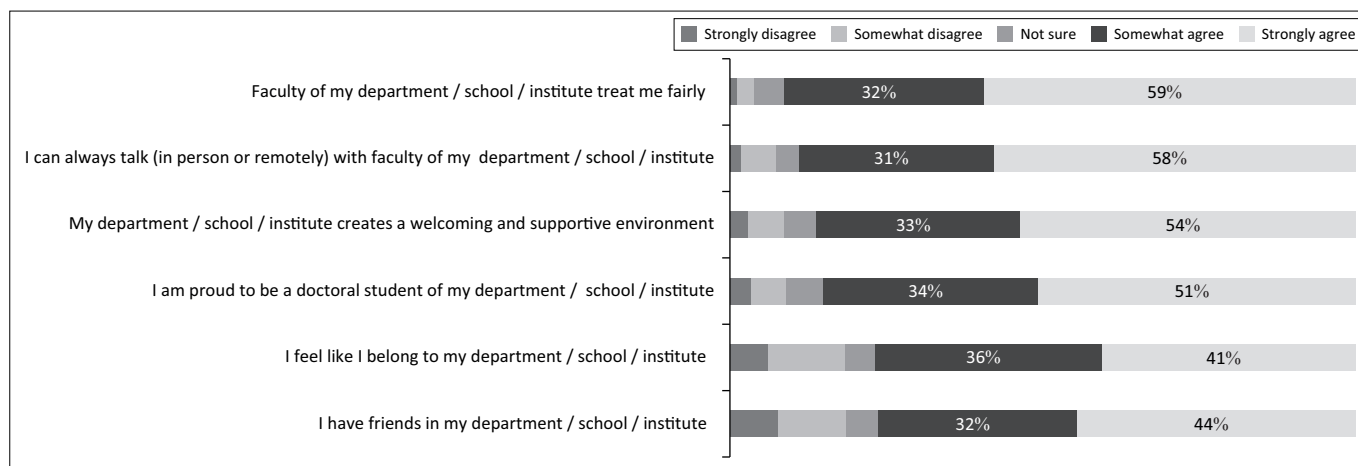
FIGURE 1: Agreement of respondents with statements about the social integration.

TABLE 3: Social integration score by nationality of respondents.

Nationality		N	Mean	Std. deviation	Std. error mean	T-test value	P
Social integration	Domestic	4063	25.2087	4.78795	0.07511	-0.599	0.549
	International	391	25.3606	4.82784	0.24415		
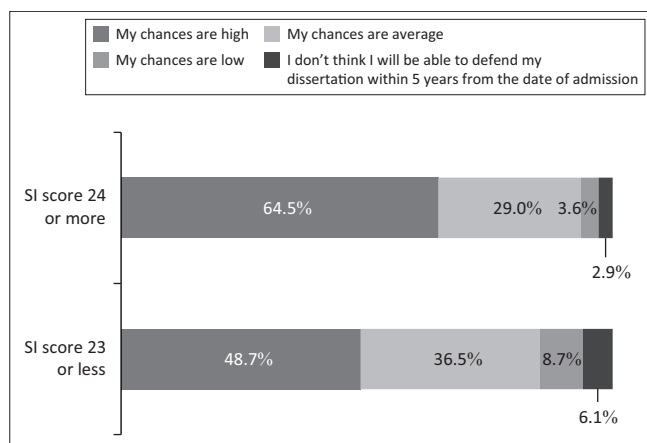
SI, social integration.

FIGURE 2: Subjective evaluation of chances to defend a thesis during the normative period depending on the value of the social integration score.

they belong to their department/school/institute ($\chi^2 = 6.1$, $p = 0.192$). At least half of the respondents, irrespective of nationality, strongly agreed with the other four questions on SI, as summarized in Table 2.

The domestic students had a mean (+ standard deviation) SI score of 25.200 + 4.800 compared with a mean SI score of 25.400 + 4.800 among the international students ($t = 0.600$, $p = 0.549$). This indicates that SI among domestic and international students in Russian universities has little difference (Table 2).

In the next step, the authors analysed the experience of IDS with different levels of SI. To clarify the analysis, all IDS were divided into two groups depending on their value of SI score, using 24 points as a cutoff. The authors compared these two groups concerning their subjective evaluation of chances for the defence during the normative period (Figure 1) and students' general satisfaction with their doctoral programmes (Figure 2). The results showed
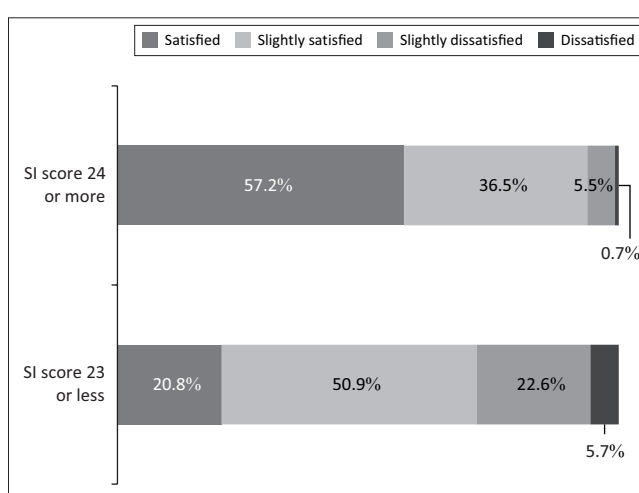
SI, social integration.

FIGURE 3: Satisfaction with the quality of the doctoral programme, depending on the value of the social integration score.

significant differences between IDS with different levels of SI for both variables. International doctoral students with lower SI score significantly rarely responded about high chances for their defence in five years – 49% compared with 65% for the group of IDS with higher SI score ($\chi^2 = 11.275$, $p = 0.010$). Similarly, among IDS with lower SI scores, almost 30% reported that they are dissatisfied with the doctoral programme compared with only 6% among IDS with higher SI scores ($\chi^2 = 55.706$, $p < 0.001$).

Discussion

Poor SI into university departments is a big issue for doctoral education, resulting in students leaving their programmes and having lower academic achievements (Ellis 2001; Gardner 2007; Lovitts 2001). Previous studies showed that the level of SI could differ depending on the individual characteristics of doctoral students as well as characteristics of the educational environment (for instance, Antilla et al. 2021; Cena et al. 2021; Spencer-Oatey et al. 2017).

This study's main goal was to investigate differences in the SI of doctoral students at Russian universities. It was focused

mainly on the comparison of SI between international and domestic doctoral students, as IDS are traditionally seen as one of the main groups at risk for SI because of language barriers, cultural specifics and other factors of their educational and social experience (Gao 2021). The results of the study demonstrated that there is no significant difference in SI between international and domestic doctoral students. In the educational departments, the only difference found between domestic and IDS is that domestic students are more likely to make friends and talk with the department staff in person or online. This friendship networks within the departments promote interactions between domestic students and staff, which could help enhance knowledge transfer and improve their social well-being compared with IDS. It could also get more domestic doctoral students to get involved in research initiatives (see Weidman & Stein 2013), which makes it more likely that they will finish their programmes in the normative time of five years before their international colleagues.

The study also found that IDS with lower SI scores have limited chances of defending their dissertation within the normative period. This is a clear indication that SI contributes a lot to improving the progress of IDS, reducing dropout rates among IDS within their programmes. Isleib et al. (2019) found a lack of SI as one of the key reasons why German international students drop out of their programmes. This necessitates that parties in higher education ought to execute reforms to help IDS quickly and easily navigate their doctoral journeys. This study also revealed that IDS with lower SI scores are the group with less satisfaction with their doctoral programmes. This, again, adds up to the argument that SI is crucial to students' happiness in their programmes and universities (Bair & Haworth 2004; Lovitts 2001; Shin et al. 2018).

The above-discussed results greatly improve the discussions on transformation in higher education by suggesting that activities that foster informal communication between domestic and international students, students and faculty should be standardized and implemented across every department of the various universities in Russia. As doctoral students, they derive substantial benefit from these interactions through these informal activities (Espino 2014; Shelly 2011). These activities may include clubs, extracurricular events, cultural festivals and the addition of extra-group events to doctoral programmes, which increases the chance that IDS will make friends in their departments and makes them more involved and less lonely (see Janta et al. 2014; Rockinson-Szapkiw et al. 2014; Merola et al. 2019; Stallone 2011). Rigler et al. (2017) found that one of the main reasons why so many doctoral students drop out is that they feel isolated. These suggested activities, if successfully implemented in Russian universities, would ensure that IDS are properly absorbed into the university's social and academic culture, which will improve retention and persistence (Piepenburg & Beckmann 2021). This relates well with Tinto's theory, which argues that all students attend universities with previous experience. The experiences shape how students experience the selection of different societies and their educational departments. He also stated that departmental practices that foster informal communication improve students' sense of belonging, which enhances their commitment to their department and nurtures their inspiration to persevere in the doctoral programme.

Conclusion

The study investigates differences in the SI of doctoral students in Russian university departments. It provided a comprehensive understanding and knowledge of the factors in Russian university departments that foster SI among doctoral students in the Russian context, with implications for departmental measures in all national institutions. The study found no significant difference in SI, and IDS were more likely to be socially isolated, less satisfied with their programmes and therefore had fewer chances of graduating within the required time frame of five years. The study suggested that activities that foster informal communication should be implemented and standardized within all departments in Russian universities to properly absorb all doctoral students into the social and academic cultures of their universities.

Acknowledgements

References

Antilla, H., Sullanmaa, J. & Pyhältö, K., 2021, 'Does it feel the same? Danish and Finnish social science and humanities doctoral students' academic emotions', *Frontiers in Education* 6, 758179. https://doi.org/10.3389/feduc.2021.758179

Bair, C.R. & Haworth, J.G., 2004, 'Doctoral student attrition and persistence: A meta-synthesis of research', in J.C. Smart (ed.), *Higher education: Handbook of theory and research*, vol. 19, pp. 4481–4534, Springer, Dordrecht.

Bekova, S. & Dzhafarova, Z., 2019, 'Who is happy in doctoral programs: The connection between employment and learning outcomes of PhD students', *Вопросы образования* 1(eng), 87–108. https://doi.org/10.17323/1814-9545-2019-1-87-108

Brooman, S. & Darwent, S., 2014, 'Measuring the beginning: A quantitative study of the transition to higher education', *Studies in Higher Education* 39(9), 1523–1541. https://doi.org/10.1080/03075079.2013.801428

Cena, E., Burns, S. & Wilson, P., 2021, 'Sense of belonging and the intercultural and academic experiences among international students at a university in Northern Ireland', *Journal of International Students* 11(4), 812–831. https://doi.org/10.32674/jis.v11i4.2541

Chiang, K.H., 2003, 'Learning experiences of doctoral students in UK universities', *International Journal of Sociology and Social Policy* 23(1/2), 4–32. https://doi.org/10.1108/01443330310790444

Cockrell, C.N. & Shelley, K., 2011, 'The relationship between academic support systems and intended persistence in doctoral education', *Journal of College Student Retention: Research, Theory & Practice* 12(4), 469–484. https://doi.org/10.2190/cs.12.4.e

De Valero, Y.F., 2001, 'Departmental factors affecting time-to-degree and completion rates of doctoral students at one land-grant research institution', *The Journal of Higher Education* 72(3), 341–367. https://doi.org/10.1080/00221546.2001.11777098

Ellis, E.M., 2001, 'The impact of race and gender on graduate school socialization, satisfaction with doctoral study, and commitment to degree completion', *The Western Journal of Black Studies* 25, 30–45.

Espino, M.M., 2014, 'Exploring the role of community cultural wealth in graduate school access and persistence for Mexican American PhDs', *American Journal of Education* 120(4), 545–574. https://doi.org/10.1086/676911

Gao, Y., 2021, 'Understanding of international doctoral students' challenges: A literature review study', *Journal of International Students* 11(2), 505–513.

Gardner, S.K., 2007, '"I heard it through the grapevine": Doctoral student socialization in chemistry and history', *Higher Education* 54, 723–740. https://doi.org/10.1007/s10734-006-9020-x

Gardner, S.K., 2008, 'Fitting the mold of graduate school: A qualitative study of socialization in doctoral education', *Innovative Higher Education* 33(2), 125–138. https://doi.org/10.1007/s10755-008-9068-x

Gardner, S.K., 2010, 'Contrasting the socialization experiences of doctoral students in high-and low-completing departments: A qualitative analysis of disciplinary contexts at one institution', *The Journal of Higher Education* 81(1), 61–81. https://doi.org/10.1080/00221546.2010.11778970

Golde, C.M., 2000, 'Should I stay or should I go? Student descriptions of the doctoral attrition process', *The Review of Higher Education* 23(2), 199–227. https://doi.org/10.1353/rhe.2000.0004

Golde, C.M., 2005, 'The role of the department and discipline in doctoral student attrition: Lessons from four departments', *The Journal of Higher Education* 76(6), 669–700. https://doi.org/10.1080/00221546.2005.11772304

Greene, M., 2015, 'Come hell or high water: Doctoral students' perceptions on support services and persistence', *International Journal of Doctoral Studies* 10, 501. https://doi.org/10.28945/2327

Herzig, A.H., 2002, 'Where have all the students gone? Participation of doctoral students in authentic mathematical activity is necessary for persistence toward the Ph.D', *Educational Studies in Mathematics* 50, 177–212. https://doi.org/10.1023/A:1021126424414

Hixenbaugh, P., Dewart, H. & Towell, T., 2012, 'What enables students to succeed? An investigation of socio-demographic, health, and student experience variables', *Psychodynamic Practice* 18(3), 285–301. https://doi.org/10.1080/14753634.2012.695887

Holmes, J.L. & Rockinson-Szapkiw, A., 2020, 'The development and validation of the distance doctoral program integration scale', *Online Learning Journal* 24(4), 182–203. https://doi.org/10.24059/olj.v24i4.1951

Hughes, G. & Smail, O., 2015, 'Which aspects of university life are most and least helpful in the transition to HE? A qualitative snapshot of student perceptions', *Journal of Further and Higher Education* 39(4), 466–480. https://doi.org/10.1080/0309877X.2014.971109

Isleib, S., Woisch, A. & Heublein, U., 2019, 'Ursachen des Studienabbruchs: Theoretische Basis und empirischeFaktoren', *ZeitschriftfürErziehungswissenschaft* 22(5), 1047–1076. https://doi.org/10.1007/s11618-019-00908-x

Janta, H., Lugosi, P. & Brown, L., 2014, 'Coping with loneliness: An ethnographic study of doctoral students', *Journal of Further and Higher Education* 38(4), 553–571. https://doi.org/10.1080/0309877X.2012.726972

Kearns, H., Gardiner, M. & Marshall, K., 2008, 'Innovation in PhD completion: The hardy shall succeed (and be happy!)', *Higher Education Research & Development* 27(1), 77–89. https://doi.org/10.1080/07294360701658781

Lovitts, B.E., 2001, *Leaving the ivory tower: The causes and consequences of departure from doctoral study*, Rowman and Littlefield, Lanham, MD.

Lovitts, B.E., 2005, 'How to grade a dissertation', *Academe* 91(6), 18–23. https://doi.org/10.2307/40252858

Maloshonok, N. & Terentev, E., 2019, 'National barriers to the completion of doctoral programs at Russian universities', *Higher Education* 77(2), 195–211. https://doi.org/10.1007/s10734-018-0267-9

Meeuwisse, M., Severiens, S.E. & Born, M.P., 2010, 'The learning environment, interaction, sense of belonging, and study success in ethnically diverse student groups', *Research in Higher Education* 51(6), 528–545. https://doi.org/10.1007/s11162-010-9168-1

Merola, R.H., Coelen, R.J. & Hofman, W.H.A., 2019, 'The role of integration in understanding differences in satisfaction among Chinese, Indian, and South Korean international students', *Journal of Studies in International Education* 23(5), 535–553. https://doi.org/10.1177/1028315319861355

Piepenburg, J.G. & Beckmann, J., 2021, 'The relevance of social and academic integration for students' dropout decisions. Evidence from a factorial survey in Germany', *European Journal of Higher Education* 12(3), 255–276. https://doi.org/10.1080/21568235.2021.1930089

Rigler, K.L., Bowlin, L.K., Sweat, K., Watts, S. & Throne, R., 2017, 'Agency, socialization, and support: A critical review of doctoral student attrition', in *Paper presented at the 3rd International Conference on Doctoral Education*, University of Central Florida.

Rockinson-Szapkiw, A., Spaulding, L.S., Swezey, J. & Wicks, C., 2014, 'Poverty and persistence: A model for understanding individuals' pursuit and persistence in a doctor of education program', *International Journal of Doctoral Studies* 9, 181. https://doi.org/10.28945/2049

Ruud, C.M., Saclarides, E.S., George-Jackson, C.E. & Lubienski, S.T., 2018, 'Tipping points: Doctoral students and consideration of departure', *Journal of College Student Retention: Research, Theory & Practice* 20(3), 286–307. https://doi.org/10.1177/1521025116666082

Settle, J.S., 2011, 'Variables that encourage students to persist in community colleges', *Community College Journal of Research and Practice* 35(4), 281–300. https://doi.org/10.1080/10668920701831621

Shin, J.C., Kim, S.J., Kim, E. & Lim, H., 2018, 'Doctoral students' satisfaction in a research-focused Korean university: Socio-environmental and motivational factors', *Asia Pacific Education Review* 19(2), 159–168. https://doi.org/10.1007/s12564-018-9528-7

Spencer-Oatey, H., Dauber, D., Jing, J. & Lifei, W., 2017, 'Chinese students' social integration into the university community: Hearing the students' voices', *Higher Education* 74(5), 739–756. https://doi.org/10.1007/s10734-016-0074-0

Stallone, M.N., 2003, *Factors associated with student attrition and retention in an educational leadership doctoral program*, Texas A&M University-Kingsville, Kingsville, TX.

Sverdlik, A., Hall, N.C., McAlpine, L. & Hubbard, K., 2018, 'The PhD experience: A review of the factors influencing doctoral students' completion, achievement, and well-being', *International Journal of Doctoral Studies* 13(1), 361–388. https://doi.org/10.28945/4113

Terentev, E., Bekova, S. & Maloshonok, N., 2021, 'Three challenges to the Russian doctoral education system: Why does only one out of ten doctoral students defend a thesis?', *International Journal of Chinese Education* 10(1), 22125868211007016. https://doi.org/10.1177/22125868211007016

Terentiev, E.A., Bekova, S.K. & Maloshonok, N.G., 2018, 'The crisis of postgraduate studies in Russia: What bears problems and how to overcome them', *University Management: Practice and Analysis* 22(5), 54–66. https://doi.org/10.15826/umpa.2018.05.049

Tinto, V., 1993, *Leaving college: Rethinking the causes and cures of student attrition*, The University of Chicago Press, Chicago, IL.

Van Rooij, E., Fokkens-Bruinsma, M. & Jansen, E., 2021, 'Factors that influence PhD candidates' success: The importance of PhD project characteristics', *Studies in Continuing Education* 43(1), 48–67. https://doi.org/10.1080/0158037x.2019.1652158

Vekkaila, J., Pyhältö, K. & Lonka, K., 2014, 'Engaging and disengaging doctoral experiences in the behavioral sciences', *International Journal for Researcher Development* 5(1), 33–55. https://doi.org/10.1108/ijrd-09-2013-0015

Walsh, E., 2010, 'A model of research group microclimate: Environmental and cultural factors affecting the experiences of overseas research students in the UK', *Studies in Higher Education* 35(5), 545–560. https://doi.org/10.1080/03075070903243092

Wao, H.O. & Onwuegbuzie, A.J., 2011, 'A mixed research investigation of factors related to time to the doctorate in education', *International Journal of Doctoral Studies* 6, 115. https://doi.org/10.28945/1505

Weidman, J.C. & Stein, E.L., 2003, 'Socialization of doctoral students to academic norms', *Research in Higher Education* 44(6), 641–656. https://doi.org/10.1023/A:1026123508335

Woodman, T., Terentev, E., Grigoryeva, A. & Minaeva, E., 2022, *Academic (dis) engagement of international doctoral students at Russian universities*, STAR Scholar Book Series, Open Journals in Education, viewed n.d., from https://ojed.org/index.php/gsm/article/view/2992.

Zhou, E. & Okahana, H., 2019, 'The Role of the department supports doctoral completion and time-to-degree', *Journal of College Student Retention: Research, Theory & Practice* 20(4), 511–529. https://doi.org/10.1177/1521025116682036

Zhou, G. & Zhang, Z., 2014, 'A study of the first-year international students at a Canadian university: Challenges and experiences with social integration', *Comparative and International Education* 43(2)Article 7. https://doi.org/10.5206/cie-eci.v43i2.9253