

International students' motivation to study abroad – “Why are you studying at a Hungarian university?”

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Abstract

The Bologna Process facilitates students and staff mobility among 48 countries to bring more coherence to Higher Education systems across Europe (European Commission/EACEA/Eurydice, 2020). A great number of higher education institutions develop study abroad programs to attract more international students, but there is a systematic difference between students participating in such programs and those who are not, hence it is significantly important to get to know about international students' motivation to study abroad. This study examined international students' motivation using the two-factor model of intrinsic and extrinsic motivation proposed by the self-determination theory (SDT) of human motivation. A questionnaire was administered to 100 international students, 46 males and 54 females, aged 19 to 37 to explore the motivation to attend a Hungarian university. The results of the study show that the respondents endorsed more items on intrinsic motivation, than on extrinsic motivation. There is a significant difference in motivation among bachelor, master, and doctorate students. Master students demonstrate a higher level of stimulation, external, and identified regulation compared to bachelor and doctorate students. International students experience high-quality motivation – intrinsic motivation during studying at a Hungarian university, perceive themselves to be acting with a sense of autonomy, competence, and relatedness. The existing literature on international education mostly has focused on the skills and benefits students gain, but there has been limited research on international students' motivation. At the same time, knowledge about international students' motivation can be used in the program support and development which fits more to the motivational characteristics of international students.

Key words: self-determination theory, motivation, international students, higher education.

1. Introduction

Globalization is driving the internationalization of higher education. The most common way for nations to respond to the fundamental challenges of globalization is to use the Internationalization of higher education (Knight & de Wit, 1997). Internationalization is a significant phenomenon affecting higher education institutions worldwide in recent decades (Altbach & Teichler, 2001). The definition of internationalization of higher education refers to the process of integrating an international aspect into the teaching, research, and service functions of internationalization (Knight & Wit, 1997). The internationalization of higher education can stimulate the sustainability and growth of science all around the world, increase the number of scholarship programs through academic exchanges to build powerful academic international networks mobilize the ability in favor of the transfer of knowledge, advanced policies, and global research (Altbach & Knight, 2007). Higher education institutions have been challenged to move from operating mainly within state systems to an international arena. One of the most popular ways to internationalize institutions of higher education has been to use study stay abroad programs for international students (Ahn, 2014).

Study abroad programs are defined as all programs of higher education that take place outside the geographical boundaries of the student's country of origin (Kitsantas, 2004). Study abroad has become more popular among international students and

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universities through global interaction and integration. Hungarian universities are no exception. Due to the Stipendium Hungaricum Scholarship Programme (2020) which was founded by the Government of Hungary in the spirit of its foreign policy "Opening to the East and the South" and self-financed programs thousands of international students from all around the world apply for higher educational studies in Hungary each year. Currently, over 11,000 international students are studying in Hungary according to the Stipendium Hungaricum Scholarship Programme portal.

International students' motivation is an important factor in predicting their behavior and learning in the classroom while in a foreign country (Chirkov et al., 2007; Mitchell et al., 2017; Howard, 2019). International students are apt to face adjustment issues during study abroad far away from home country that are unfamiliar to local students, primarily in the area of language proficiency, culture adaptation, social and economic domain (Andrade, 2006) in the context of a foreign country environment where the motivation for studying takes an important role. Motivation refers to any force that energizes and directs behavior in different types of activity (Reeve, 2009). This energy gives behavior its intensity, strength, and persistence. Motivation could certainly be perceived as one of the most important psychological concepts in education, which energizes and directs behavior toward a goal (Eggen & Kauchak, 1994).

For the purpose of the present study, Self-Determination Theory (Deci & Ryan, 2008; Ryan & Deci, 2000; Vallerand, 1997) was selected as a relevant theoretical background because this theory posits that different types of motivation vary as per how much a student engages in an activity for reasons of personal choice. These types of motivation can be defined broadly as extrinsic motivation, intrinsic motivation, and amotivation. At the same time, a higher sense of self-determination towards intrinsic motivation is connected with an individual's basic psychological needs of autonomy, competence, and relatedness (Deci et al., 1991). When environmental factors satisfy the three basic psychological needs, students can expect intrinsic motivation to be facilitated. In contrast, when these needs are thwarted, the individual's motivation is diminished (Ryan & Deci, 2000). Hence international students who are motivated intrinsically experience satisfaction of three basic psychological needs as autonomy, competence, and relatedness.

The existing empirical literature on international education, and specifically on study abroad, mostly has focused on the skills and benefits students gain during international experiences, but there has been limited research on international student motivation (Pawlak, Csizér, & Soto, 2020). At the same time, knowledge about international students' motivation can be used in the program support and development which fits more to the motivational characteristics of international students. This makes the current research significant.

The study aims to investigate international students' motivation using the two-factor model of intrinsic and extrinsic motivation proposed by the self-determination theory (SDT) of human motivation. To fulfill the aim of the study, the questionnaire "Why are you studying at Hungarian university" was created and distributed among international students in Hungary. The data were statistically analyzed by using mean, standard deviation, and pair T-test.

2. Literature review

In exploring international students' motivation to study at Hungarian university, psychological constructs from self-determination theory (SDT) are applied. This theory assumes that all students, no matter what their age, gender, socioeconomic status, nationality, country of origin, or cultural background are, possess inherent growth tendencies (e.g., intrinsic motivation, basic psychological needs) that provide a motivational foundation for their high-quality classroom engagement and participation (Deci & Ryan, 1985, 2000; Vansteenkiste, 2006). The self-determination theory is a broad motivational framework that is centered on

motivation that can be categorized into distinct types along a self-determinant continuum. There are two general types of motivation, one based on intrinsic interest in the activity and the other based on rewards extrinsic to the activity itself.

Intrinsic motivation (IM) lies on one extreme end of the continuum and represents the pinnacle of self-determined behaviors. In the middle band lies extrinsic motivation (EM). At the other extreme end lies amotivation which represents a complete lack of motivation. People who are amotivated either do not act or act passively. Table 1 represents the Self-Determination Continuum from Amotivation to Intrinsic motivation.

Table 1. The Self-Determination Continuum

Amotivation	Extrinsic motivation			Intrinsic motivation
Non-regulation	External regulation	Introjected regulation	Identified regulation	Intrinsic regulation
				Knowledge Accomplishment Stimulation

Source: Deci & Ryan, 1985

Intrinsic motivation generally refers to motivation to engage in an activity because that activity is enjoyable and satisfying to do. Intrinsic motivation depends on one's desire to engage in activities because of societal values and expectations. According to Deci and Ryan (1985), IM is founded upon innate needs for competence and self-determination. Further, Vallerand and his colleagues (Vallerand, 1997; Vallerand et al., 1989; Vallerand et al., 1992) proposed a three-part taxonomy of IM. The first type of IM is knowledge, which refers to the motivation for doing an activity for the feelings associated with exploring new ideas and developing knowledge. In this situation, international students experience the pleasure of studying at Hungarian universities getting knowledge in the field of study. The second type is accomplishment, which refers to the sensations related to attempting to master a task or achieve a goal. International students feel the satisfaction of passing examinations in the English language. The third type is stimulation, which relates to motivation based simply on the sensations stimulated by performing the task, such as aesthetic appreciation or fun and excitement. For example, international students express joy discussing studying abroad with other international students. The common basis of these three subtypes is the pleasurable sensations experienced during the self-initiated and reasonably challenging activity.

In contrast to intrinsically motivated behaviors, extrinsically motivated behaviors are actions carried out to achieve some instrumental goals, such as avoiding punishment or earning a reward. This type of motivation does not necessarily imply a lack of self-determination in the behaviors performed. Rather, Deci and Ryan (1985) and Vallerand (1997) maintained that different types of extrinsic motivation (EM) can be classified along a continuum according to the extent to which they are internalized into the self-concept as a part of self-determination. Three levels of EM have been distinguished (Vallerand, 1997; Vallerand, 1989, 1992). From the lowest to the highest level of self-determination, there are external regulation, introjected regulation, and identified regulation.

External regulation is defined as those activities that are determined by sources external to the person, such as the costs of education, opportunity to receive the international certificate of higher education, opportunities for more prestigious jobs and

higher salaries in the future, traveling, and other tangible benefits. If the reason for studying at a Hungarian university is taken away, there is no incentive to continue the engagement in this process. The second type of extrinsic motivation which is more internalized into the self-concept is introjected regulation. Introjected regulation refers to reasons that pertain to performing an activity due to some type of pressure that individuals have incorporated into the self, such that they compel themselves to carry out that activity. Although the source of the pressure is internal, it is not self-determined because the people are reacting to pressure, not acting based on personal choice. An example of this type of regulation is the international students who study in Hungary because they would feel ashamed among family or friends if they could not take the possibility to study abroad. Studying would only take place as long as they feel the need to reduce guilt. The most self-determined form of extrinsic motivation is identified regulation. At this point, individuals invest energy in an activity because they have chosen to do so for personally relevant reasons. In this situation, international students would carry out studying because of its integral part of how they define themselves. For instance, international students who feel that studying at a Hungarian university is an important aspect of their educational and their professional development will endure learning activities.

Deci and Ryan (2000) contrasted all types of IM and EM with amotivation. Intrinsic and extrinsic motivation both imply the existence of intention that drives behaviors, whereas the lack of such intention is represented by the concept of amotivation. Amotivation refers to the situation in which people see no relation between their actions and the consequences of those actions; the consequences are seen as arising as a result of factors beyond their control. In such a situation, international students have no reason, intrinsic or extrinsic, for performing the studying activity, and they would be expected to quit the activity as soon as possible or act passively, follow the formal requirements and procedures. These students demonstrate the lack of self-motivation, display disaffection, and can act irresponsibly. A lack of competence, control, or value can lead to amotivation (Ryan & Deci, 2000).

In some findings regarding SDT in the field of education has shown that a higher level of self-determination leads to positive educational outcomes, i.e. deeper engagement, better conceptual learning, and higher persistence (Aarepattamanni, Freeman, & Klinger, 2011; Black & Deci, 2000; Lin, McKeachie, & Kim, 2001; Moneta & Siu, 2002; Pelletier et al., 2001; Standage, Duda, & Ntoumanis, 2005; Vansteenkiste, Lens, & Deci, 2006; Wang & Guthrie, 2004; Zhou, Ma, & Deci, 2009; Zhu & Leung, 2011). This educational outcome can be considered as important with international students who meet a lot of challenges during studying abroad in a new cultural environment and language barriers. Hence more self-determined students have more positive educational outcomes in skills and knowledge that they can apply in their future study and career.

A higher sense of self-determination towards intrinsic motivation is connected with satisfied individual's basic psychological needs of autonomy, competence, and relatedness (Deci et al, 1991). The three basic psychological needs of autonomy, competence, and relatedness are the source of students' inherent and proactive intrinsically motivated tendency to seek out novelty, be more active and involved, pursue the optimal challenge, exercise and extend their capabilities, explore, and learn. So it can be suggested that international students with high a sense of self-determination towards intrinsic motivation satisfy their needs of autonomy, competence, and relatedness. This requires the awareness of internal factors such as individual's age, gender, cognitive ability, and the introduction of external social factors, including the degree of autonomy support in the environment of the university (Wehmeyer et al., 2011). When social factors such as the degree of autonomy support in the university' environment satisfy the three basic psychological needs, international students' intrinsic motivation is expected to be facilitated. In contrast, when these needs are thwarted, the individual's motivation is diminished (Ryan & Deci, 2000).

As a basic psychological need, autonomy refers to the experience of one's behavior as volitional, the inner endorsement. A university environment can support international students' autonomy by tapping on inner motivational resources, providing opportunities to engage in learning activities with an internal locus of causality, a sense of psychological freedom, and perceived choice over their actions (Reeve, 2009).

Students have a need to feel that they are the masters of their own studying process and that they have at least some control over their academic life; most importantly, students have a need to feel that they are in control of their own behavior. The students' control can be increased by minimizing external pressure through language and providing explanatory rationale to transform any task into one of personal value (Reeve, 2009). Hence using of English as a foreign language and the medium of instruction during international students' studying at a Hungarian university can play a crucial role in students' autonomy because of the level of English language proficiency and possible language barriers.

Competence represents the need to be effective in students' pursuits and interactions with the environment. It reflects the inherent desire to exercise one's capacities during studies and to seek out and master environmental challenges (Deci & Ryan, 2000). So students can go through some challenges and difficulties to prove their competence. Competence concerns their achievements, knowledge, and skills; students have a need to build their competence and develop mastery over tasks that are important to them during studying process. This competence can be supported by introducing appropriate learning activities at universities and providing students with the appropriate tools, technics, and feedback for improvement (Niemiec & Ryan, 2009).

Relatedness refers to the experience of a sense of belonging and connectedness to a group of other international students, teachers, and professors during the study program. This is realized when students feel that a teacher genuinely respects and cares for them (Ryan & Deci, 2000). Relatedness is connected with the establishment of close emotional bonds and secure attachments with others. It reflects the desire to be emotionally connected to and interpersonally involved in warm, caring, and responsive relationships (Deci et al., 1991). So relatedness can play a crucial role for international students during studying abroad, how students can relate to others in an authentic, caring, and reciprocal way far away from home.

Recent research has combined the needs for autonomy, competence, and relatedness into one composite variable and the satisfaction of these needs has been positively associated with self-determined motivation, i.e. intrinsic motivation, identified motivation, and introjected motivation (Chen & Jang, 2010; Jang et al., 2009; W. C. Liu et al., 2009; Standage et al., 2003), but negatively associated with external regulation and amotivation (Liu et al., 2009; Standage et al., 2003).

Both internal, personal factors and the social environment influence the degree to which the three needs are met (Ryan and Deci, 2000). Meeting these needs leads to personal growth, vitality, and well-being of students.

The existing empirical literature on international education, and specifically on study abroad, mostly has focused on the skills and benefits students gain during international experiences, but there has been limited research on international student motivation (Pawlak, Csizér, & Soto, 2020). This is really curious, as at the same time an increasing number of educators pay attention to the necessity to help students become motivated learners (Pintrich, 2000; Schunk, 2005; Boekaerts & Cascallar, 2006). This study analyzes the international students' motivation at Hungarian universities with a help of SDT.

3. Methodology

Quantitative methodological design was used in this study to analyse international students' motivation to study at a Hungarian university with a specific focus on survey. It is often associated with the generalization of findings to the population (Creswell & Creswell, 2018). A survey design provided a quantitative description of international students' motivation, by studying a sample of that population. Survey designs helped to answer descriptive questions and questions about the relationships between variables in this study.

3.1. Methods

The questionnaire “Why are you studying at a Hungarian university?” was developed based on the questionnaire of Noels, Pelletier, Clement, & Vallerand, (2000) - Language Learning Orientations Scale (LLOS): Intrinsic Motivation, Extrinsic Motivation, and Amotivation (IEA) Subscales to analyze motivation into distinct types along a self-determinant continuum of International students to study at Hungarian universities. It is composed of 28 items subdivided into seven subscales assessing three types of intrinsic motivation (intrinsic motivation to get knowledge, accomplishment, and stimulation), three types of extrinsic motivation (identified regulation, external, introjection), and amotivation. The scales were formulated in English. On this questionnaire, the international students were required to rate, based on a Likert scale, the extent to which the items correspond to why they are studying at Hungarian university. The questions were related to extrinsic motivation such as external regulation (“I am studying in Hungary to get the opportunity to travel more”), introjected regulation (“I would feel ashamed in front of my family or friends if I couldn’t study at a university abroad”), integrated regulation (“Education abroad is an integral part of my life”), intrinsic motivation to get knowledge (“I enjoy the feeling of acquiring new knowledge in my field of study”), accomplishment (“For the satisfaction, I feel when I am in the process of accomplishing my international student’s duties”), stimulation (“For the positive feeling that I experience studying abroad in Hungary”) or amotivation (“I cannot see why I study at Hungarian university”). Four questions were related to each subscale.

3.2. Participants

The population of the study was international students who study at Hungarian universities. The sampling procedure involved convenience sampling based on the students’ location in Hungary, studying at Hungarian universities on full-time basis, their accessibility, and willingness to take part in this research. The sample consisted of 100 international students (54 female, 46 male, mean age = 28 with an age range from 19 to 37 years) from 18 Hungarian universities. All participants stated their Hungarian university of study, level of study and major, level of the English and Hungarian languages, gender, scholarship holders’ status, and country of origin. English was the medium of instruction in the module. To ensure that the students had sufficient time for adaptation in Hungary and at a Hungarian university, the survey was conducted at the beginning of the second semester. The total time required to complete the questionnaire was approximately 15 minutes. All students provided their background and demographic information.

The students were represented almost equally in the levels of study – 34 students were Bachelors, 36 Masterss and 30 Doctorate students from different programs of study such as Education, Economics, Pedagogy, Engineering, Psychology, Architecture, Business Development, Management, Tourism, Physics, Finance and Accounting, Informatics Technology, Engineering, Mathematics, Biology, Chemistry, etc.

These international students had taken educational programs where the English language was the official language of the program. 63 students indicated their level of English language as advanced, 22 as intermediate, 14 near-native or native, and one as a beginner. Also, students were asked about their familiarity with the Hungarian language as an official language of Hungary and 90 students indicated beginner level, 9 intermediate, and 1 advanced. 97% of students were scholarship holders of the Stipendium Hungaricum Scholarship Programme (2020) and 3% of students were self-financed.

International students from 38 different countries such as Russia, Albania, Kenya, Azerbaijan, India, Kazakhstan, South Africa, Egypt, Tanzania, Jordan, Brazil, Indonesia, Myanmar, Angola, Ukraine, China, Macedonia, Iran, Ghana, Tunisia, Angola, etc. took part in this research. Table 2 contains the demographic data of the sample.

Table 2. Demographic data

Characteristics	Frequency	Percentage
Gender		
Male	46	46%
Female	54	54%
Age		
19-24	38	38%
25-30	43	43%
31-37	19	19%
Level of study		
Bachelor	34	34%
Master	36	36%
Doctorate	30	30%
Level of English		
Near-native/native	14	14%
Advanced	63	63%
Intermediate	22	22%
Beginner	1	1%
Scholarship status		
Scholarship holder	97	97%
Self-financed student	3	3%

3.3. Procedure

The questionnaire was formed in Google form service and distributed online among the international students who were studying at Hungarian universities through social media in a personal message and special international groups on Facebook. The participation was voluntary and anonymous; each participant could choose the most comfortable time to fulfill the questionnaire. The approximate length of filling this questionnaire is seven minutes. **In this study, the research data were analyzed using the software of SPSS 20.0 (Statistical Package for the Social Science). For all the statistical analyses conducted, the level of significance was taken as .05.** Descriptive statistics were used such as mean and standard deviation. The one-way analysis of variance (ANOVA) was also conducted.

3.4. Results and analysis

The data collected were coded and the questionnaire was scored and analyzed based on the seven subscales based on Noels et al. (2000). Reliability analysis of the subscales showed that all seven scales had a high reliability except for the extrinsic motivation-Introjected subscale, Cronbach's $\alpha = 0.686$ which is close to 0.7 (Dörnyei, 2007). See Table 3 for the listing of Cronbach's α for the seven subscales. These results indicate that the instrument seems to provide reliable results in the Hungarian study abroad contexts.

Table 3. Cronbach's alpha for the seven subscales

Motivation scale	Cronbach's alpha
Intrinsic motivation- to know	.83
Intrinsic motivation - accomplishment	.79
Intrinsic motivation- to experience stimulation	.77
Extrinsic motivation- identified	.83
Extrinsic motivation -introjection	.69
Extrinsic motivation-external regulation	.73
Amotivation	.78

The seven subscales were compiled into three scales representing the three motivational orientations under investigation - intrinsic motivation (knowledge, accomplishment, and stimulation), extrinsic motivation (external regulation, introjected regulation, and identified regulation), and amotivation. The participants in the study endorsed more items related to intrinsic motivation ($M = 4.17$, $SD = 0.24$) than extrinsic motivation ($M = 3.56$, $SD = 0.59$) or amotivation ($M = 1.98$, $SD = 0.2$). The table below depicts participants' response patterns on the three motivation scales.

Table 4. Three motivation scales

Motivation scale	Mean	Standard Deviation
Intrinsic motivation	4.17	0.24
Extrinsic motivation	3.56	0.59
Amotivation	1.98	0.2

Intrinsic motivation, extrinsic motivation, and amotivation are represented in seven subscales, for intrinsic motivation in knowledge, stimulation and accomplishment, for extrinsic motivation in identification, introjection and external regulation and amotivation. The participants in the study endorsed more items related to knowledge of intrinsic motivation ($M = 4.34$, $SD = 0.13$), after that to stimulation ($M = 4.15$, $SD = 0.29$) and accomplishment ($M = 4.05$, $SD = 0.29$) than to identified motivation of extrinsic motivation ($M = 3.9$, $SD = 0.16$), external regulation ($M = 3.71$, $SD = 0.45$), Introjected motivation ($M = 3.08$, $SD = 1.17$) and amotivation ($M = 1.98$, $SD = 0.2$). The table below depicts participants' response patterns on the seven motivation subscales.

Table 5. Seven motivational subscales

Motivation scale	Mean	Standard Deviation
Knowledge	4.34	0.13
Stimulation	4.15	0.29
Accomplishment	4.05	0.29
Identified motivation	3.9	0.16
Introjection	3.08	1.17
External regulation	3.71	0.45
Amotivation	1.98	0.2

For the purpose of comparing international students' motivation to study at a Hungarian university with respect to the level of study such as bachelor, master, or doctorate variable one-way analysis of variance (ANOVA) was conducted. In the event of a significant difference as a result of the variance analysis, Tukey test was used to determine which group caused the difference.

According to table 6, it is seen that there is no significant difference between the variable of the students' level of study and Introjected regulation ($F=1.958; p>.05$), motivation to get knowledge ($F=2.911; p>.05$). Similarly, there is no significant difference between level of study and motivation to accomplish ($F=2.462; p>.05$) and amotivation ($F=2.425; p>.05$). On the other hand, a significant difference was found between the variable of the student's level of study and integrated regulation ($F=4.872, p<.05$). The results of Tukey HSD analysis revealed that master students have significantly higher levels of integrated regulation ($M=4.41$) compared to bachelor ($M=3.82$) and doctorate ($M=3.84$) students. In addition, a significant difference was found between the variable of the student's level of study and external regulation ($F=7.323, p<.05$). Master students have significantly higher levels of integrated regulation ($M=4.26$) compared to bachelor ($M=3.53$) and doctorate ($M=3.55$) students, also master students demonstrated a higher level of stimulation ($M=4.5$) than bachelor ($M=4.05$) and doctorate ($M=4.09$) students.

The table below represents the results of one-way variance analysis of international students' motivation based on the level of study.

Table 6. One-way variance analysis of international students' motivation based on the level of study (bachelor, master, doctorate)

Variable – Level of study	Variable – Motivation	Source of Variance	Sum of squares	df	Mean squares	F	P
	Introjected	Between groups	2.739	2	1.369	1.958	0.147
		Within groups	67.851	97	0.699		
		Total	70.590	99			
	Knowledge	Between groups	2.882	2	1.441	2.911	0.059
		Within groups	48.028	97	0.495		
		Total	50.910	99			
	Accomplishment	Between groups	3.031	2	1.516	2.462	0.091
		Within groups	59.719	97	0.616		
		Total	62.750	99			
	Amotivation	Between groups	4.312	2	2.156	2.425	0.094
		Within groups	86.248	97	0.889		
		Total	90.560	99			
	Integrated	Between groups	7.515	2	3.757	4.834	0.010
		Within groups	75.395	97	0.777		
		Total	82.910	99			

	External	Between groups	11.621	2	5.822	7.323	0.001
		Within groups	76.969	97	0.793		
		Total	88.590	99			
	Stimulation	Between groups	4.059	2	2.029	4.024	0.5
		Within groups	65.101	97	0.671		
		Total	69.160	99			

3.5. Discussion

The current study was designed to investigate international students' motivation to study at a Hungarian university using the two-factor model of intrinsic and extrinsic motivation proposed by the self-determination theory (SDT) of human motivation. A lot of empirical studies were conducted about academic motivation in the case of domestic students in quantitative or qualitative perspective (Harackiewicz et al., 2002; Bénabou & Tirole, 2003; Alivernini, Lucidi, & Manganelli, 2014), but there is a lack of international students' motivation research using the self-determination theory (SDT). At the same time Baldwin and James (2000) have investigated students' motivation to migrate to other countries and suggested a combination of push and pull factors which empower students' decision making. Political and economic factors appeared to be the most significant push factors. On the other hand, institutional factors tend to pull students to make a choice of the country to study, such as teaching quality, better variety of courses, international reputation of the institution, location, degree of innovation, and the use of technology (Khudur, 2019). Institutional pull factors can be associated with international students' motivation of getting knowledge through studying in a foreign country.

The results of the analyses suggest that international students' motivation can be reliably assessed using the intrinsic and extrinsic subtypes outlined by Deci and Ryan (1985) and Vallerand (1989; 1992). The fact that this instrument seems to work well in the Hungarian study abroad context indicates that international students have a higher level of intrinsic motivation than extrinsic motivation or amotivation. The dominant type named by 87 international students in the current study was the motivation of getting knowledge through studying at a Hungarian university. These students did the study activities for the feelings associated with exploring new ideas and developing knowledge. The students enjoyed the feeling of acquiring new knowledge in their fields of study and knowledge of international students' way of life. The next dominant type was motivation of accomplishment, so 82 international students attempted to master a task or achieve a goal (Vallerand, 1997; Vallerand et al., 1989; Vallerand et al., 1992). They felt satisfaction with passing the examination in the English language, solving the problems during studying, accomplishing international student's duties such as homework, presentations, and projects. And then came stimulation (chosen by 81 international student), which relates to motivation based simply on the sensations stimulated by performing the task, such as aesthetic appreciation or fun and excitement. For example, international students expressed joy while discussing studying abroad with other international students, they experienced positive feelings while studying abroad in Hungary and love studying at a Hungarian university. The common basis of these three subtypes of international students' motivation were the pleasurable sensations experienced during the self-initiated and challenging activities during study abroad.

The next type of motivation of 78 international students to study at Hungarian university was extrinsic motivation or to be more clearly identified motivation, this form is generally the most self-determined of extrinsic motivation (Vallerand, 1997; Vallerand, 1989, 1992). International students invested energy in activities because they had chosen to do so for personally

relevant reasons. They carried out the study process because of its integral part how they define themselves, that education abroad, and studying at a Hungarian university were an integral part for them. The international students (78%) who felt that studying at a Hungarian university was an important aspect of their educational development were ready to endure learning activities. Some international students (74%) defined external regulation as a source of their studying activity defined as those activities that are determined by sources external to the students, such as costs of education or granted basis, opportunity to get an International Certificate of Higher education, opportunities to get a more prestigious job and higher salaries in the future, traveling, and other tangible benefits. If the reason for studying at Hungarian university was taken away, there was no incentive to continue the engagement in this process. But some of the students (61%) were motivated by Introjected regulation. They performed study activities due to some type of pressure that has been incorporated into the self so they compelled themselves to carry out that activity. The source of the pressure was internal, but it was not self-determined, because the people were reacting to pressure, not acting based on personal choice (Vallerand, 1997). Some international students (61%) claimed they study in Hungary because they would feel ashamed in front of family or friends if they could not take the possibility to study abroad. These students demonstrated a low level of amotivation. A high level of amotivation refers to the situation in which students see no relation between their actions and the consequences of those actions when the consequences are seen as arising as a result of factors beyond their control. But the international students in this research mostly saw the relationship between their study actions and the consequences of those actions, they had different reasons, intrinsic or extrinsic, for performing the study activity at a Hungarian university. They would not be expected to quit the activity as soon as possible or act passively, follow formal university requirements and procedures. These students demonstrated a high level of self-motivation, display satisfaction, and acted responsibly.

Several studies were conducted to investigate international students' motivation to study in Hungary which can be related to intrinsic and extrinsic motivations (Khudur, 2019; Casas Trujillo, Mohammed, & Saleh, 2020; Kéri, 2018). In a study conducted by Khudur (2019) the motivation of Kurdish students to study in Hungary was explored with the help of an in-depth qualitative interview. The findings of the study highlight that all Kurdish students of the study were motivated by future achievements as a result of pursuing their studies abroad and getting an international qualification. These attainments include getting better future career opportunities, professional development, and language proficiency progress. Future career opportunities can be associated with external regulation, those activities that are determined by sources external to the student. Professional development and language proficiency progress can be associated with the motivation of getting knowledge through studying at Hungarian universities. In another study, by Casas Trujillo, Mohammed, and Saleh (2020), international students' motivation to study at the University of Debrecen, Hungary was further investigated. 15 qualitative interviews were performed among international scholarship holders on postgraduate levels to analyze study motivation with focus on institutional perspectives. The findings of this analysis show that the main motivational domains for these international students to study at the University of Debrecen were personal motives, geo-academic motives, financial motives, family, and future expectations. To focus on the first three domains such as personal, geo-academic, and financial motives, personal motives are associated with the perception that studying abroad helps students learn more about themselves, become more mature, gain self-confidence, and test their ability to adjust to different situations, and new circumstances. These motives can represent intrinsic motivation - accomplishment, international students attempting to achieve their goals. Geo-academic motives are related to the chance to achieve a high level of education, broaden their horizons, and continue studies in a better educational system. So, geo-academic motives can be also associated with motivation of getting knowledge through studying in Hungary. Financial motives to get financial support to study by the Stipendium Hungaricum program is a great motivation to determine international students' study in Hungary. Financial motives are related to external regulation. In a quantitative study conducted by Keri (2018), foreign students' motivation and expectations at the University of Szeged, Hungary was analyzed. It was found that five motivation types influence expectations, these five

motivation types are reference groups, self-realization, getting to know the culture, integration into the Hungarian community, and gaining knowledge. As it can be seen, all five types represent intrinsic motivation as a dominant type. Motivation to get knowledge about Hungarian culture and motivation to gain knowledge play an important role to study in Hungary, University of Szeged. Based on these studies, motivation of getting knowledge, accomplishment, and external regulation among international students at Hungarian universities can be considered as the main types of motivation to study in Hungary. Similar results were received in the current investigation of international students' motivation to study at a Hungarian university using the two-factor model of intrinsic and extrinsic motivation proposed by the self-determination theory (SDT). The dominant types of motivation among international students to study at Hungarian universities are motivation of getting knowledge, accomplishment, stimulation, identified, and external regulation.

The results of the present study demonstrate the significant difference in international students' motivation to study at a Hungarian university based on the level of study. Master students had a higher level of integrated, external regulations, and motivation to accomplish compared to bachelor and doctorate students. So master students invested more energy in a study activity because they have chosen to do so for personally relevant reasons. Education abroad, and studying at a Hungarian university were an integral part of how they defined themselves. At the same time master students' motivation to study is more determined by sources external to them, such as costs of education or granted basis, opportunity to get an international certificate of higher education, and other tangible benefits. If the reason for studying at a Hungarian university is taken away, there is more risk for no incentive to continue engagement in this process. Also, master students indicated a higher level of stimulation. They expressed more joy discussing studying abroad with other international students, experienced more positive feelings studying abroad in Hungary, and loved studying at a Hungarian university more than bachelor and doctorate students.

4. Conclusion and Recommendations

International students' motivation to study at a Hungarian university can be investigated using the two-factor model of intrinsic and extrinsic motivation proposed by the self-determination theory (SDT) of human motivation. It can be seen that international students demonstrated a high sense of self-determination towards intrinsic motivation. A higher sense of self-determination towards intrinsic motivation was connected with satisfied individual's basic psychological needs of autonomy, competence, and relatedness (Deci et al., 1991). The three basic psychological needs of autonomy, competence, and relatedness as the source of students' inherent and proactive intrinsically motivated the tendency to seek out novelty, be more active and involved, pursue the optimal challenge, exercise and extend their capabilities, explore, and learn. So it can be suggested that international students with a high sense of self-determination towards intrinsic motivation satisfied their needs of autonomy, competence, and relatedness. Students could feel the control of their behaviors, capable of engaging in target activities, and connected to others. This required the awareness of internal factors of the students (e.g. individual's age, gender, cognitive ability) and the introduction of external social factors such as a degree of autonomy support of the environment in the university (Wehmeyer et al., 2011). Intrinsic motivation is expected to be facilitated when social factors such as the degree of autonomy support in the university' environment satisfy the three basic psychological needs. So the environmental factors of Hungarian universities, universities' staff, professors, and teachers have to organize studying process that satisfies the three basic psychological needs so that students' intrinsic motivation is facilitated. In contrast, when these needs are thwarted, the individual's motivation is diminished (Ryan & Deci, 2000). And students can demonstrate amotivation, act passively, and irresponsibly.

Also in some findings regarding SDT in the field of education have shown that a higher level of self-determination leads to positive educational outcomes, i.e. deeper engagement, better conceptual learning, and higher persistence (Areepattamannil et al., 2011;

Black & Deci, 2000). The high level of self-determination among international students who are studying at Hungarian universities can lead to a positive education outcome. Learning outcomes describe the students' knowledge or skills students that should acquire by the end of a particular assignment, course, or program. Learning outcomes make students understand why that knowledge and those skills will be useful to them with the focus on the context and potential applications of knowledge and skills in the class, in the studying process, and in future careers. So international students are able to focus on the application of knowledge and skills learned in a lesson or course and on the integration of knowledge and skills with other areas of their lives, students are more connected to learning and the context of the course.

International students' motivation is various, depending on the level of study – bachelor, master, or doctorate levels. Master students in this research demonstrated a higher level of integrated, external regulation, and stimulation. These students were more inclined to consider study at a Hungarian university as an integral part of how they define themselves, determined by sources external to them, also they experienced more positive feelings during their study than bachelor and doctorate students. This result indicates that the students from different levels of study require to consider different types of motivation for students' successful performance.

There are a few limitations of the current study that need to be addressed in future studies. Firstly, the study was self-reported. However, the research does offer some confirmatory evidence for substantive aspects of SDT to investigate international students' motivation to study at a Hungarian university using the two-factor model of intrinsic and extrinsic motivation. Future field experiments or intervention studies can be conducted to tease out the relationships of the motivation and three basic psychological needs of International students or the relationships of the motivation and students' educational outcomes. Second, the data could be nested by the level of study of International students (Bachelor, Master, or Doctorate), future studies can examine the multilevel effects of the data. The current study looked at international students' motivation to study at Hungarian university in the two-factor model of intrinsic and extrinsic motivation.

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