



| Research Article / Araştırma Makalesi |

How Well Do International Students Adapt to The Turkish Higher Education System?

Uluslararası Öğrenciler Türk Yükseköğretim Sistemine Ne Kadar İyi Uyum Sağlıyor?

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Keywords

1. Adaptation
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Abstract

Purpose: Although several studies have been conducted on international students regarding different variables related to internationalization in higher education, the adaptation issues have been neglected or given little attention in general. This study, designed as descriptive cross-sectional research, explores the general adaptation levels of international students in relation to various variables frequently discussed in the related literature through the data obtained from 1266 participants from 58 countries at a state university with the highest number of international students in Türkiye.

Design/Methodology/Approach: Data collected through the General Adaptation Scale for International Students was analyzed using descriptive statistics, independent sample t-tests, one-way ANOVA and Pearson correlation coefficients.

Findings: Findings reveal that more than half of the international students are at a fairly adapted level. While they achieved the highest mean scores in sociocultural adaptation, the lowest mean scores were in psychological adaptation. Analyses indicate that gender, scholarship, host language proficiency and international students' countries create significant differences in their adaptation levels. Also, there are significant low or moderate positive correlations among the sub-factors and general adaptation.

Highlights: Findings, discussion, and implications offer novel insights for higher education administrators, authorities, and policymakers to facilitate the adaptation process of international students at universities.

Öz

Çalışmanın amacı: Yükseköğretimde uluslararasılaşma ile ilgili farklı değişkenler konusunda uluslararası öğrenciler üzerinde birçok çalışma yapılmış olmasına rağmen, uluslararası öğrencilerin uyum konusu ihmal edilmiş veya oldukça sınırlı sayıda araştırmada dikkate alınmıştır. Kesitsel tarama modelinde tasarlanan bu çalışmada, Türkiye'de en fazla uluslararası öğrenciye ev sahipliği yapan bir devlet üniversitesinde öğrenim gören 58 ülkeden toplam 1266 katılımcıdan elde edilen veriler temel alınarak ilgili literatürde sıkça tartışılan çeşitli değişkenler bağlamında uluslararası öğrencilerin genel uyum düzeylerinin belirlenmesi amaçlanmıştır.

Materyal ve Yöntem: Uluslararası Öğrenciler için Genel Uyum Ölçeği aracılığıyla toplanan veriler, tanımlayıcı istatistikler, bağımsız örneklem t testi, tek yönlü ANOVA ve Pearson korelasyon katsayıları kullanılarak analiz edilmiştir.

Bulgular: Bulgular, araştırmaya katılan uluslararası öğrencilerin yarısından fazlasının oldukça uyumlu bir düzeyde olduğunu ortaya koymaktadır. Öğrenciler en yüksek ortalamayı sosyokültürel uyumda elde ederken, en düşük ortalamayı psikolojik uyumda göstermişlerdir. Analizler cinsiyet, burs alma durumu, ev sahibi dil yeterliliği ve uluslararası öğrencilerin geldikleri ülkelerinin uyum seviyelerinde önemli farklılıklar yarattığını göstermektedir. Ayrıca alt faktörler ile genel uyum arasında anlamlı düzeyde düşük veya orta düzeyde pozitif ilişkiler bulunmaktadır.

Önemli Vurgular: Bulgular, tartışma ve öneriler, uluslararası öğrencilerin üniversitelere uyum sürecini kolaylaştırmak için yükseköğretim yöneticilerine, yetkililere ve politika yapıcılara yeni bakış açıları sunmaktadır.

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INTRODUCTION

The demand for higher education has risen considerably due to globalization and increasing internationalization in higher education (HE). Furthermore, a substantial number of students aspiring to study abroad leads to the rapid growth of overseas higher education (Mok et al., 2021). As a result, millions of students have been travelling across geographic and cultural frontiers for educational purposes. To illustrate the magnitude of this global movement, De Wit and Altbach (2021) claim that student mobility has doubled every other decade for the past fifty years, and the estimation for the next decade is 8 million mobile students. Since international students bring about social, cultural, and economic benefits for host countries (Terry, 2011), student mobility trends are important to universities, educators, corporate leaders, and governments to boost profitability and diversity on campuses around the world (Bista, Sharma & Gaulee, 2018). Therefore, it is critical to look into ways to attract and accommodate these students well.

Given the importance of international students to host countries, various nations have devoted extensive efforts to devising HE policies in a more international direction. Some of these nations have already undergone this process and achieved great success in the internationalization of higher education. For instance, the United States and the United Kingdom, due to the outstanding reputations of their higher education institutions (HEIs), have been the two most popular destinations for international students (Austin & Shen, 2016). Canada, China, Australia, France, Russia, Germany and so on are among those nations on the list of the most preferred countries by international students (Atlas, 2020). Furthermore, internationalization in higher education with a specific emphasis on global student mobility has become a significant policy and practice agenda for most other nations. Thus, international competition has intensified among countries that desire more benefits from the process. De Wit and Altbach (2021) point out a shift from traditional destinations to emerging ones for international students across the world. China, Singapore, and Malaysia could set an exemplar of those new destinations (Altbach & Engberg, 2014). Over five million students travel across national borders for higher education today, and this crossing provides financial gain and serves national interests (Bista, Sharma & Gaulee, 2018). For these reasons, the benefit-driven perspective has transformed national HE policies; thus, a growing body of countries has started to look for ways to gain more of the process. In this respect, Teichler (2017) posits that student mobility has become a fundamental priority of policy and practice in higher education as the number of students in a host country has become a key indicator of internationalization.

Among all the countries mentioned above and some others too, Türkiye, a developing country, as many others do, has adopted the benefit-driven approach, and started to devise HE policies for more internationalization in higher education. The policies have enabled the country to host a growing number of international students (Seggie & Ergin, 2018). According to the statistics released by the Turkish Higher Education Council (CoHE), the number has been increasing for the last twenty years.



Figure 1. Growing number of international students at Turkish HEIs (CoHE, 2022)

As shown in Figure 1, there has been a steady increase in international students for the last two decades. Several factors have contributed to this constant growth in numbers. To illustrate, Kılınç, Kurt and Ortaç (2021) point out that Erasmus+, Türkiye Scholarships, Mevlana Exchange Program, Joint Diploma Programs and Project-Based International Exchange Program are among the significant initiatives taken to foster the number of international students at Turkish HEIs. However, during the last decade, particularly after the Syrian conflict, millions of people had to take shelter in Türkiye as the situation intensified (Arslan & Kılınç, 2021). Since then, Syrian students have had a considerable impact on the rise in the numbers, and the increase rate has almost doubled compared to the first decade of the last twenty years.

In addition, government policies that enable and encourage students from especially Turkic Republics, Middle Eastern countries and other Muslim countries to study in Türkiye, wars, and internal conflicts in Türkiye's close geography in recent years, Türkiye's position as a model state for these countries are regarded the influential factors in this process (Erdem & Polat, 2019). The historical, social, cultural and linguistic similarities between their countries and Türkiye, geographical proximity, affordability, accessibility, student admission conditions and bilateral relations between countries are other factors that international students consider while preferring higher education institutions in Türkiye (Erişti, Polat & Erdem, 2018). In sum, in the case of Türkiye, a

wide range of factors has played a significant role in attracting more international students and having a competitive edge in terms of internationalization in higher education.

In recent decades, the Turkish HE system has expanded its capacity for the growing number of international students. With this expansion, Turkish HEIs have begun to redesign their systems and infrastructure accordingly, yet international students' adaptation challenges and issues have become more ubiquitous. As the adaptation to a new cultural setting unfolds itself on multiple levels, involving social, psychological, academic, and environmental, adapting effectively is critical for social and academic success (Ashifa, 2021). Regarding the adaptation challenges international students have faced, Berry (2005) states that adapting to a host culture is a stressful and arduous experience. In this sense, the notion of adaptation, a combination of subsets that constitute this multi-faceted concept, has come to the fore (Polat & Arslan, 2022). However, the literature on this broad concept is widely dispersed. As in the case of international students, for example, acculturation with a specific emphasis on acculturative stressors that is frequently addressed by many (e.g., Akdağ & Koçak, 2020; Boynuegri & Sener, 2021; Gomez et al., 2014; Khawaja & Stallman, 2011; Li et al., 2014; Nasirudeen et al., 2014), could be regarded one of the subsets of the general adaptation concept. Besides, when the literature on international students' adaptation is examined, it is evident that several other studies (e.g., Gibbs et al., 2020; Kağnıcı, 2012; Li & Gasser, 2005; Wang et al., 2015; Zhou et al., 2008) embrace a different term as cross-cultural adaptation instead of acculturation and acculturative stressors, yet the topical foci of the studies deal with the similar issues. In this regard, cross-cultural adaptation, which refers to another broad term consisting of two closely intertwined but empirically distinguished concepts of sociocultural adaptation and psychological adaptation (Berry, 1997), could also be considered another subset of general adaptation. In a broad sense, although the literature on the subject is vast and conceptually diverse, the main focus revolves around the adaptation challenges international students face.

In line with the mentioned above, the available research has shown that international students suffer from various stressful experiences, including challenges with the host country's culture and language, racial tensions, climate differences, isolation, psychological issues, new daily life routines, economic problems and so on (Knight, 2011; Oyenini et al. 2021; Smith & Khawaja, 2011; Spencer-Oatey & Xiong, 2006; Wang & Mallinckrodt, 2006). Hence, various factors have been identified as critical determinants of the general adaptation process. Consistent with the previous research, language proficiency (Wang & Hannes, 2014), social support from family, local people, international or local friends (Hendrickson et al., 2011), cultural awareness and intercultural communication skills (Dai & Zhao, 2021) are considered among those determinants of the process. In this sense, today, it is more important than ever to assess their needs and engage in practices that can help them with their adaptation phase.

With the heightened awareness of the adaptation challenges international students confront, a growing body of literature on the issue has revealed significant findings, in particular to Turkish HEIs. In a recent study on international students, for example, Gibbs et al. (2020) have indicated that the host country's language proficiency and interpersonal connections with host nationals are critical elements for sociocultural adaptation. Yet, interpersonal connections with co-nationals brought about a poor level of psychological adaptation. Besides, Cura and Işık (2016) have pointed out that low-level acculturative stressors improve academic adjustment and success. In another study conducted in Türkiye, homesickness has been demonstrated to have a negative impact on the process of sociocultural adaptation (Sezer, Karabacak & Narseyitov, 2021). Among many other problems that international students cope with, Titrek et al. (2016) have mentioned that international students experience communication, housing, health, and cultural challenges throughout their stay in Türkiye. Ashifa (2021), in a recent study, has proved the importance of language skills for effective adjustment. Snoubar (2017) has listed in his research that academic and financial problems, together with social pressure and discrimination, are among the most prevailing issues experienced by international students in Türkiye. From a broader perspective, Kılınç, Arslan and Polat (2020) have reported that international students often confront sociocultural, psychological, financial, and academic challenges.

Against this backdrop, by being cognizant of the needs of international students, developing new ways to facilitate the adaptation process has taken precedence. To this end, the current study utilizing a holistic instrument developed by Polat and Arslan (2022) aims to examine the general adaptation levels of international students in relation to various variables frequently discussed in the related literature. The research questions addressed in the study are as follows:

1. What are the adaptation levels of international students?
2. Do the adaptation levels of international students differ significantly regarding their genders?
- 3- Do the adaptation levels of international students differ significantly regarding their scholarship status?
- 4- Do the adaptation levels of international students differ significantly regarding their Turkish language levels?
- 5- Do the adaptation levels of international students differ significantly regarding their home countries?
- 6- What are the correlation levels among the factors?

METHOD

Research Design

This study employs a descriptive cross-sectional research design to reach an understanding of the general adaptation levels of international students. Cross-sectional survey research gathers descriptive information from a group of participants selected

among a pre-set population at a specific point in time (Fraenkel, Wallen, & Hyun, 2011). This type of research has been regarded as getting an image of the target group in terms of certain variables (Lavrakas, 2008).

Participants

The research data were obtained from a sample of international students studying at Karabuk University. The university holds more than 310 bilateral agreements globally and welcomes more than 11,000 international students from 94 countries. Additionally, since the vision of the university is to become a pioneer in the internationalization process, it offers BA, MA, MSc, and PhD programs compatible with the Bologna Process quality assurance standards, and hence it has become one of the most favored destinations among Turkish universities (KBU, 2022). A total of 1266 international students, who were selected using random sampling, (see Table 1.) participated in the research. Descriptive statistics indicated that the participants were from 58 countries. While 24 countries were represented by at least 30 students, which is regarded as a threshold for the statistical tests to compare the means of two or more groups, a total of 106 students from 34 other countries contributed to the richness of the quantitative data. As depicted in Table 1, the distribution of the participants in terms of gender, duration of stay, and the host language proficiency levels also, reflects the diversity in the study sample.

Table 1. Participants' profile

Variables		N	%	Country	N	%
Gender	Female	303	23,9	Syria	116	9,2
	Male	963	76,1	Chad	69	5,5
Scholarship	Yes	159	12,6	Gabon	67	5,3
	No	1107	87,4	Egypt	65	5,1
Duration of Stay	0-6 Months	205	16,2	Pakistan	63	5,0
	7-12 Months	332	26,2	Somalia	63	5,0
	13-24 Months	212	16,7	Jordan	55	4,3
	25 or more months	517	40,8	Yemen	53	4,2
Turkish Proficiency	A1	64	5,1	Kazakhstan	50	3,9
	A2	83	6,6	Sudan	43	3,4
	B1	157	12,4	Afghanistan	42	3,3
	B2	367	29,0	Senegal	42	3,3
	C1	451	35,6	Uzbekistan	42	3,3
	C2	144	11,4	Iraq	41	3,2
				Morocco	41	3,2
				Palestine	40	3,2
				Guinea-B.	39	3,1
				Azerbaijan	36	2,8
				Cameroon	34	2,7
				Djibouti	34	2,7
				Rep. of the Congo	33	2,6
				D. Rep. of the Congo	31	2,4
			Iran	31	2,4	
			Turkmenistan	30	2,4	
			Others (34 countries)	106	9,1	
			Total	1266	100	

Data Collection Tools

The research utilizes the General Adaptation Scale for International Students (GASIS) developed by Polat & Arslan (2022) to collect quantitative data. GASIS consisting of four factors labelled as academic adaptation, sociocultural adaptation, psychological adaptation, and daily life adaptation, was designed to determine international students' general adaptation levels to a host country. Based on a set of particular parameters explicitly specified in the literature, the researchers created a comprehensive and sequential strategy to develop the scale. The scale's validity and reliability were examined in two phases on two separate groups of international students. According to the results, GASIS composed of 28 items grouped under four factors has been proven a reliable and valid instrument. GASIS also classifies students into five categories based on their mean scores achieved on the scale as not adapted, partly adapted, moderately adapted, fairly adapted, and totally adapted according to its scoring key.

Data Collection Process

Upon receiving permission from the Ethics Committee of the institution, the researchers began data collection. Research data were collected by the researchers in classes over a two-week period from the faculty of engineering, economics and administrative sciences, school of foreign languages and TOMER at Karabuk University. Following a preset plan, the researchers first explained the research's purpose, scope and importance in the classrooms they visited, then collected data only from students who volunteered to participate. Before the analysis, the complete questionnaires from a total of 1304 students were checked in detail,

and 38 of them were excluded as they were left unmarked or marked more than one option in the same question. Hence, the researchers decided to continue with the dataset collected from 1266 students.

Data Analysis

Before deciding on the data analysis techniques, preliminary analyses to check the normality of the data were conducted by graphical methods through histogram and Q-Q plot (see Figure 2) (McKillup, 2011) and descriptive statistics (Table 2) including the three measures of central tendency such as mean, mode, median, skewness and kurtosis values (Kirk, 2008). According to the findings, mean, median and mode are moderately close to each other which is regarded as an indicator of normal distribution (Steinberg & Price, 2020). Likewise, skewness and kurtosis values are between the acceptable thresholds (Field, 2009; Hair et al., 2010). Finally, the bell-shaped histogram and normal Q-Q plot of the mean representing the normal distribution of the data (Figure 2) verify the descriptive statistics. Based on the findings above, the researchers opted to run parametric tests in the data analysis procedure after validating the normality assumptions.

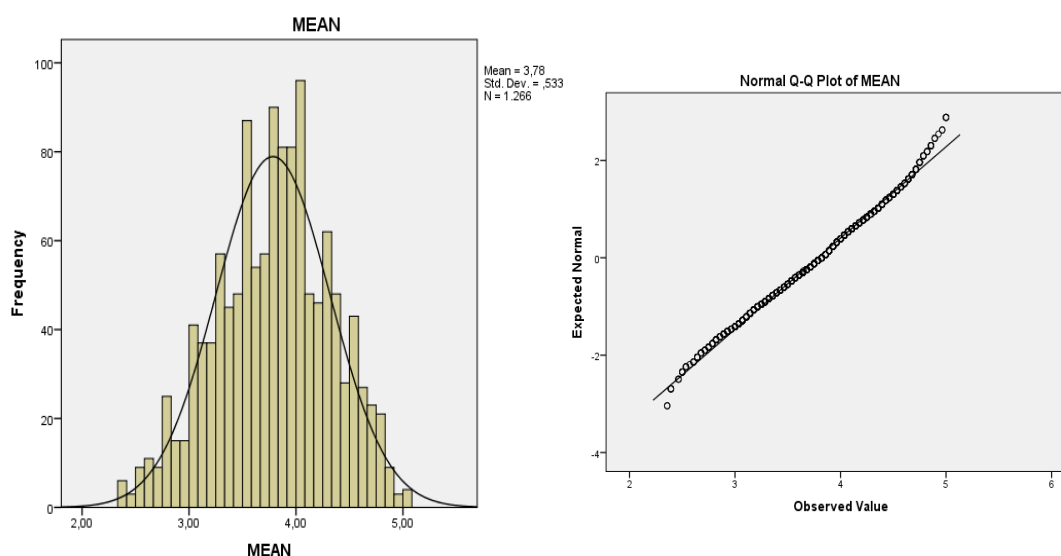


Figure 2. Histogram & Q-Q plot of mean

Validity and Reliability

In this research, to confirm the validity of the instrument utilized in the study the confirmatory factor analysis was carried out. Before performing CFA, the Kaiser-Meyer-Olkin (KMO=.91) coefficient was examined first, then the Barlett sphericity test (11248.121, $p < .001$) was calculated to determine the suitability of the data. According to the preliminary analysis and calculations, the data were found to be suitable for the analysis. CFA was then conducted to confirm the four-factor structure. At this stage, the χ^2/df ratio, RMSEA, SRMR, GFI, NNFI, CFI and IFI fit indices were used, and it was found that all values verify excellent and good levels of fit (See Table 2). Thus, the scale can be considered a valid and reliable instrument (Jöreskog & Sörbon, 1993; Kline, 2011; Schermelleh-Engel, Moosbrugger & Müller, 2003; Schumacher & Lomax, 2004).

Table 2. CFA results

Fit Indices	Observed Values	Acceptable Values
χ^2/df	4.28	Acceptable Fit $\chi^2/df \leq 5$
RMSEA	0.051	Good Fit RMSEA ≤ 0.80
S RMR	0.045	Good Fit S RMR ≤ 0.80
GFI	0.92	Good Fit GFI ≥ 0.90
AGFI	0.91	Good Fit AGFI ≥ 0.90
CFI	0.93	Good Fit CFI ≥ 0.90
NFI	0.95	Good Fit NFI ≥ 0.90
NNFI	0.96	Excellent Fit NNFI ≥ 0.95
IFI	0.96	Good Fit IFI ≥ 0.95

The reliability of the instrument was calculated through Cronbach's Alpha which is the most common measure of internal consistency. Table 3 presents the alpha values for the total scale and the sub-factors. Cronbach's Alpha changes within the limits of 0 and 1 and Field (2009) highlights that the values between .70 or higher point out an acceptable reliability level. The findings show that internal consistency of the total scale and sub-factors ranges between .79 and .89 which signifies the high level of reliability of the instrument.

Table 3. Reliability test results

Factors	Cronbach's Alpha Values
Academic Adaptation	.79
Socio-cultural Adaptation	.80
Psychological Adaptation	.85
Daily Life Adaptation	.80
General Adaptation	.89

FINDINGS

Adaptation Levels of International Students

Regarding the first research question, the adaptation levels of international students were analyzed in general and within the four sub-factors called Academic Adaptation (AA), Sociocultural Adaptation (SCA), Psychological Adaptation (PA) and Daily Life Adaptation (DLA). The findings, including all descriptive statistics in detail presented in Table 4.

Table 4. Descriptive statistics of international students' adaptation levels

N	Valid Missing	Total 1266 0	AA 1266 0	SCA 1266 0	PA 1266 0	DLA 1266 0
Mean		3,78	3,77	3,94	3,54	3,90
Median		3,82	3,83	4,00	3,62	4,00
Mode		3,93	4,00	4,00	4,00	4,00
Std. Deviation		,533	,735	,653	,862	,649
Skewness		-,185	-,662	-,696	-,453	-,444
Std. Error of Skewness		,069	,069	,069	,069	,069
Kurtosis		-,385	,499	,916	-,166	,379
Std. Error of Kurtosis		,137	,137	,137	,137	,137

The findings display that the mean scores of international students in the total scale is 3,78 which is categorized as "fairly adapted" according to the scoring system of the instrument (Polat & Arslan, 2022). Similarly, although there are differences among the mean scores of the factors, all of the observed values point out that there is no significant difference in the adaptation levels of international students regarding the sub- factors. While the highest level is acquired in sociocultural adaptation (3,94), the lowest level is achieved in psychological adaptation (3,54).

Table 5. Adaptation levels of international students

	General Adaptation		Academic Adaptation		Socio-Cultural Adaptation		Psychological Adaptation		Daily-life Adaptation	
	M	%	M	%	M	%	M	%	M	%
Not adapted	0	0	15	1,2	7	0,6	37	2,9	4	0,3
Partly adapted	18	1,4	75	5,9	43	3,4	145	11,5	45	3,6
Moderately adapted	292	23,1	246	19,4	145	11,5	324	25,6	182	14,4
Fairly adapted	671	53,0	611	48,3	640	50,6	457	36,1	675	53,3
Totally adapted	285	22,5	319	25,2	431	34,0	303	23,9	360	28,4

When the mean scores of the international students were classified according to the GASIS's scoring key, the findings show that more than half of the students are at the "fairly adapted" level in general (see Table 5). In addition, it is clear that only 1.4% of the students are in the "not adapted" and "partly adapted" categories. Finally, it can be stated that approximately one out of every five students has reached the "well-adapted" level. Although there are some differences in terms of frequency and percentage distribution, the mean scores of students obtained in the sub- factors are quite similar to the general adaptation levels. In addition, the descriptive statistics of international students on the basis of items are presented in Table 6.

Table 6. Mean scores and standard deviation of the scale items.

Item	Mean	SD
<i>Academic Adaptation</i>		
1 I feel supported by my university.	3,77	1,15
2 I am satisfied with my academic progress.	3,43	1,01
3 My teachers provide the necessary support when I need.	3,94	1,07
4 When I need help, my classmates are there for me.	3,85	1,06
5 I am comfortable with the teaching styles of my new teachers.	3,88	1,01
6 I collaborate with my classmates on school projects.	3,82	1,01
<i>Socio-Cultural Adaptation</i>		
7 I am aware of national days and religious festivals of the host country.	3,80	1,09
8 I enjoy the local food of the host country.	3,77	1,04
9 I love the local music of the host country.	3,90	1,01
10 I understand and tolerate jokes and humor.	3,82	,985

11	I respect the values and cultural norms of the host country.	4,40	,768
12	I am aware of culturally accepted manners in the host country.	4,10	,892
13	I believe that I have integrated myself into the host culture.	3,81	,971
<i>Psychological Adaptation</i>			
14	I feel like I don't fit in this country.	3,30	1,23
15	I feel lonely in a social environment.	3,44	1,24
16	I feel powerless in this country.	3,39	1,27
17	Talking with locals makes me anxious.	3,58	1,23
18	When I wake up, I don't feel motivated for a new day.	3,51	1,26
19	I don't know how to cope with my anxieties.	3,54	1,21
20	I want to give up everything because I feel lost here.	3,96	1,17
21	I feel burned out here.	3,65	1,21
<i>Daily Life Adaptation</i>			
22	I know the basic legal regulations of this country.	3,37	1,09
23	I know how to travel here.	4,03	,893
24	I know where to buy basic supplies.	4,13	,884
25	I know what to do in a state of emergency.	3,78	1,07
26	I'm getting used to my new lifestyle in this country.	4,13	,865
27	I know how to survive on my budget in this country.	3,98	1,01
28	I can deal with everyday problems that I face.	3,93	,934

As reflected in Table 6, five items with the lowest mean scores are the items numbered 14(PA), 22(DLA), 16(PA), 2(AA), and 15(PA), respectively. Three of these items are grouped under psychological adaptation, one of them is associated with daily life adaptation, and one of them is linked to the academic adaptation factor. In addition, five items with the highest mean score are the ones numbered 11(SCA), 24(DLA), 26(DLA), 12(SCA) and 23(DLA), respectively. While two of these items are related to sociocultural adaptation and three of them are connected with daily life adaptation.

Adaptation Levels of International Students Regarding Their Genders and Scholarship Status

Independent sample t-tests were conducted to reveal whether the adaptation levels of international students differ significantly according to gender and whether they receive scholarships or not. There is no significant difference in the mean scores of the total scale $t(1264) = -0.911$ $p > 0.05$. However, there are significant differences in favor of males in the mean scores obtained in the sociocultural adaptation $t(1264) = -3.159$ $p < 0.005$ and daily life adaptation $t(1264) = -2.429$ $p < 0.05$ factors (see Table 7).

In addition, the results also indicate a significant difference in the means of the total scale for scholarship status $t(1264) = 2,213$ $p < 0.05$. Although there is no significant difference in terms of three factors, the difference between the scholarship students and non-scholarship students is also significant in the academic adaptation factor ($t(1264) = 4,109$ $p < 0.001$) (See Table 7).

Table 7. T-test results regarding gender and scholarship variables

Variables	Adaptation of International Students										
	Total			Academic Adaptation		Socio-Cultural Adaptation		Psychological Adaptation		Daily Life Adaptation	
	<i>M</i>	<i>t</i>	<i>df</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>
<i>Gender</i>											
Female	3.76	-911	1264	3.84	1.810	3.83	-3.159	3.57	0.553	3.82	-2.429
	0.55	(,362)		0.72	(0.071)	0.64	(0.002)**	0.89	(0.581)	0.66	(0.015)*
Male	3.79			3.75		3.97		3.54		3.93	
	0.53			0.73		0.65		0.85		0.64	
<i>Scholarship</i>											
Yes	3.87	2,213	1264	4.00	4.109	4.00	0.068	3.57	0.027	3.97	0.081
	0.51	(0.027)*		0.70	(0.000)***	0.66	(0.219)	0.85	(0.707)	0.69	(0.165)
No	3.77			3.74		3.93		3.54		3.89	
	0.53			0.73		0.65		0.86		0.64	

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

Adaptation Levels of International Students Regarding Their Duration of Stay

One-way ANOVAs were conducted to find out answers to the third, fourth and fifth research questions. International students were classified into four groups based on the length of stay in Türkiye. The results demonstrate a statistically significant difference among the groups in the total scale $F(3, 1262) = 7.915, p = .000$. Similarly, there are significant differences both in the socio-cultural adaptation $F(3, 1262) = 17.390, p = .000$ and the daily life adaptation $F(3, 1262) = 15.212, p = .000$ according to international students' duration of stay (see Table 8). Post-hoc comparisons using Hochberg's GT2 uncovered the significant differences between groups in detail (see Table 9).

Table 8. Adaptation levels of international students regarding their duration of stay

Duration of Stay	Source	df	SS	MS	F	p
General Adaptation	Between groups	3	6,646	2,215	7,915	,000
	Within groups	1262	353,197	,280		***
	Total	1265	359,843			
Academic Adaptation	Between groups	3	,976	,325	,601	,614
	Within groups	1262	683,280	,541		
	Total	1265	684,256			
Socio-Cultural Adaptation	Between groups	3	21,435	7,145	17,390	,000
	Within groups	1262	518,533	,411		***
	Total	1265	539,968			
Psychological Adaptation	Between groups	3	4,812	1,604	2,164	,090
	Within groups	1262	935,317	,741		
	Total	1265	940,129			
Daily Life Adaptation	Between groups	3	18,595	6,198	15,212	,000
	Within groups	1262	514,229	,407		***
	Total	1265	532,823			

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 9. Key findings of post-hoc analysis using Hochberg's GT2

Duration of Stay	Groups with significant mean differences	Mean Difference	p	95% Confidence interval	
				Lower Bound	Upper Bound
General Adaptation	0-6 months < 13-24 months	-,15388	0,018*	-0,2904	-0,0173
	0-6 months < 25 or more months	-,20544	0,000***	-0,3205	-0,0904
	7-12 months < 25 or more months	-,09930	0,045*	-0,1973	-0,0013
Socio-Cultural Adaptation	0-6 months < 13-24 months	-,28901	0,000***	-0,4545	-0,1236
	0-6 months < 25 or more months	-,34552	0,000***	-0,4849	-0,2061
	7-12 months < 13-24 months	-,15384	0,038*	-0,3023	-0,0054
Daily Life Adaptation	7-12 months < 25 or more months	-,21035	0,000***	-0,3291	-0,0916
	0-6 months < 7-12 months	-,14996	0,049*	-0,2994	-0,0005
	0-6 months < 13-24 months	-,27060	0,000***	-0,4354	-0,1058
Daily Life Adaptation	0-6 months < 25 or more months	-,33214	0,000***	-0,4710	-0,1933
	7-12 months < 25 or more months	-,18218	0,000***	-0,3005	-0,0639

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

Adaptation Levels of International Students Regarding Their Turkish Proficiency Levels

The values obtained regarding the sixth research question (see Table 10) display that the Turkish proficiency level of international students is a significant variable in their mean scores in total scale scores and all sub-factors. Post hoc analysis using Hochberg's GT2 revealed that especially A1 level students have significantly lower adaptation levels than almost all other levels regarding the total mean scores and four factors. When Table 11 is examined holistically, it could be stated that lower-level students obtained significantly lower scores than the upper levels, but in terms of their lower overall scale scores, A1 level students appeared to be clearly distinct from all other levels.

Table 10. Adaptation levels of international students regarding their Turkish proficiency levels

Turkish Level	Source	df	SS	MS	F	p
General Adaptation	Between groups	5	28,707	5,741	21,847	,000
	Within groups	1260	331,136	,263		***
	Total	1265	359,843			
Academic Adaptation	Between groups	5	18,303	3,661	6,926	,000
	Within groups	1260	665,953	,529		***
	Total	1265	684,256			

<i>Socio-Cultural Adaptation</i>	Between groups	5	46,633	9,327	23,820	,000
	Within groups	1260	493,335	,392		***
	Total	1265	539,968			
<i>Psychological Adaptation</i>	Between groups	5	31,785	6,357	8,818	,000
	Within groups	1260	908,344	,721		***
	Total	1265	940,129			
<i>Daily Life Adaptation</i>	Between groups	5	28,977	5,795	14,493	,000
	Within groups	1260	503,846	,400		***
	Total	1265	532,823			

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 11. Key findings of post-hoc analysis using Hochberg's GT2

Turkish Level	a:A1 b:A2 c:B1 d:B2 e:C1 f:C2 Groups with significant mean differences	Mean Difference	p	95% Confidence interval	
				Lower Bound	Upper Bound
<i>General Adaptation</i>	A1 < A2	-,383	0,000***	-0,6335	-0,1333
	A1 < B1	-,485	0,000***	-0,7088	-0,2628
	A1 < B2	-,496	0,000***	-0,6999	-0,2925
	A1 < C1	-,490	0,000***	-0,6914	-0,2897
	A1 < C2	-,783	0,000***	-1,0093	-0,5575
	A2 < C2	-,399	0,000***	-0,6072	-0,1927
	B1 < C2	-,297	0,000***	-0,4711	-0,1241
	B2 < C2	-,287	0,000***	-0,4350	-0,1393
<i>Academic Adaptation</i>	C1 < C2	-,292	0,000***	-0,4367	-0,1489
	A1 < A2	-,412	0,010**	-0,7672	-0,0577
	A1 < B1	-,491	0,000***	-0,8078	-0,1754
	A1 < B2	-,511	0,000***	-0,8000	-0,2223
	A1 < C1	-,391	0,001**	-0,6765	-0,1069
<i>Socio-Cultural Adaptation</i>	A1 < C2	-,572	0,000***	-0,8927	-0,2520
	A1 < A2	-,426	0,001**	-0,7320	-0,1214
	A1 < B1	-,521	0,000***	-0,7941	-0,2497
	A1 < B2	-,545	0,000***	-0,7940	-0,2967
	A1 < C1	-,614	0,000***	-0,8595	-0,3692
	A1 < C2	-,967	0,000***	-1,2435	-0,6920
	A2 < C2	-,541	0,000***	-0,7940	-0,2881
	B1 < C2	-,445	0,000***	-0,6576	-0,2341
<i>Psychological Adaptation</i>	B2 < C2	-,422	0,000***	-0,6029	-0,2419
	C1 < C2	-,353	0,000***	-0,5291	-0,1778
	A1 < B1	-,542	0,000***	-0,9117	-0,1730
	A1 < B2	-,542	0,000***	-0,8796	-0,2049
	A1 < C1	-,487	0,000***	-0,8203	-0,1550
	A1 < C2	-,817	0,000***	-1,1921	-0,4438
	A2 < C2	-,405	0,008**	-0,7492	-0,0627
<i>Daily Life Adaptation</i>	B2 < C2	-,275	0,015*	-0,5206	-0,0308
	C1 < C2	-,330	0,001**	-0,5687	-0,0919
	A1 < B1	-,379	0,001**	-0,6550	-0,1049
	A1 < B2	-,381	0,000***	-0,6328	-0,1303
	A1 < C1	-,455	0,000***	-0,7029	-0,2074
	A1 < C2	-,740	0,000***	-1,0190	-0,4617
	A2 < C2	-,457	0,000***	-0,7134	-0,2021
	B1 < C2	-,360	0,000***	-0,5744	-0,1464
	B2 < C2	-,358	0,000***	-0,5412	-0,1764
	C1 < C2	-,285	0,000***	-0,4627	-0,1076

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

Adaptation Levels of International Students Regarding Their Countries

Although there were international students from 58 countries only 24 countries were represented by 30 or more students (see Table 12), which is accepted as the threshold for the statistical tests to compare the means of two or more groups, so ANOVA was conducted based on the data obtained from 1159 students from 24 countries. Table 12 displays that adaptation levels of international students differ significantly regarding their countries not only in general adaptation level $F(23, 1136) = 4,421, p = .000$ but also in academic adaptation $F(23, 1136) = 2,872, p = .000$, socio-cultural adaptation $F(23, 1136) = 3,608, p = .000$, psychological adaptation $F(23, 1136) = 3,185, p = .000$ and daily life adaptation $F(23, 1136) = 3,877, p = .000$.

Table 12. Adaptation levels of international students by their countries

Country	Source	df	SS	MS	F	p
General Adaptation	Between groups	23	27,293	1,187	4,421	,000
	Within groups	1136	304,936	,268		***
	Total	1159	332,229			
Academic Adaptation	Between groups	23	34,600	1,504	2,872	,000
	Within groups	1136	595,126	,524		***
	Total	1159	629,726			
Socio-Cultural Adaptation	Between groups	23	34,035	1,480	3,608	,000
	Within groups	1136	465,891	,410		***
	Total	1159	499,926			
Psychological Adaptation	Between groups	23	52,269	2,273	3,185	,000
	Within groups	1136	810,641	,714		***
	Total	1159	862,909			
Daily Life Adaptation	Between groups	23	35,828	1,558	3,877	,000
	Within groups	1136	456,456	,402	4,421	***
	Total	1159	492,284			

Notes: * $p < .05$, ** $p < .01$, *** $p < .001$.

When Table 13 is examined thorough, significant differences between some countries are striking. It can be stated that especially students from Azerbaijan, Kazakhstan, Syria, and partially Turkmenistan have achieved significantly higher levels of adaptation than students from other countries compared in the table, both in terms of total scale score averages and in terms of factors. Particularly, mean differences between the four mentioned countries and some African countries such as D.R. Congo, Egypt, Guinea-Bissau, Senegal, Somalia, Sudan, Morocco, and some Middle Eastern countries such as Palestine, Jordan, and Iran are remarkable.

Table 13. Key Findings of post-hoc analysis using Hochberg's GT2

	Groups with significant mean differences	Mean Difference	p	Lower Bound	Upper Bound	95% Confidence interval
<i>General Adaptation</i>	Azerbaijan > D.R. Congo	,496	0,027*	0,0204	0,9723	
	Azerbaijan > Egypt	,428	0,020*	0,0246	0,8317	
	Azerbaijan > Guinea-Bissau	,668	0,000***	0,2200	1,1179	
	Azerbaijan > Palestine	,481	0,015*	0,0353	0,9278	
	Azerbaijan > Senegal	,617	0,000***	0,1762	1,0585	
	Azerbaijan > Somalia	,542	0,000***	0,1368	0,9485	
	Azerbaijan > Sudan	,542	0,001**	0,1034	0,9810	
	Kazakhstan > Guinea-Bissau	,567	0,000***	0,1521	0,9820	
	Kazakhstan > Senegal	,515	0,001**	0,1089	0,9220	
	Kazakhstan > Somalia	,440	0,002**	0,0729	0,8087	
	Kazakhstan > Sudan	,440	0,013*	0,0363	0,8443	
	Syria > Guinea-Bissau	,488	0,000***	0,1285	0,8476	
	Syria > Senegal	,436	0,001**	0,0866	0,7862	
	Syria > Somalia	,361	0,002**	0,0577	0,6658	
	Syria > Sudan	,361	0,027*	0,0145	0,7081	
	Turkmenistan > Guinea-Bissau	,515	0,012*	0,0437	0,9871	
	Turkmenistan > Senegal	,463	0,041*	-0,0006	0,9281	
<i>Academic Adaptation</i>	Kazakhstan > Egypt	,640	0,001**	0,1295	1,1505	
	Kazakhstan > Jordan	,600	0,006**	0,0703	1,1309	
	Kazakhstan > Yemen	,558	0,026*	0,0232	1,0932	
<i>Socio Cultural Adaptation</i>	Azerbaijan > Cameroon	,496	0,027*	0,0204	0,9723	
	Azerbaijan > D.R. Congo	,428	0,020*	0,0246	0,8317	
	Azerbaijan > Gabon	,561	0,007**	0,0656	1,0579	
	Azerbaijan > Guinea-Bissau	,854	0,000***	0,2998	1,4096	
	Azerbaijan > Iran	,605	0,032*	0,0174	1,1940	
	Azerbaijan > Morocco	,608	0,009**	0,0598	1,1566	
	Azerbaijan > Pakistan	,575	0,005**	0,0743	1,0776	
	Azerbaijan > Palestine	,680	0,001**	0,1286	1,2318	
	Azerbaijan > Senegal	,624	0,005**	0,0794	1,1701	
	Azerbaijan > Somalia	,700	0,000***	0,1990	1,2023	
	Azerbaijan > Sudan	,756	0,000***	0,2143	1,2991	
Syria > Guinea-Bissau	,512	0,005**	0,0680	0,9569		

<i>Psychological Adaptation</i>	Azerbaijan > Guinea-Bissau	,735	0,047*	0,0033	1,4673
	Azerbaijan > Senegal	,817	0,006**	0,0986	1,5373
	Azerbaijan > Somalia	,705	0,018*	0,0441	1,3676
	Kazakhstan > Guinea-Bissau	,713	0,022*	0,0372	1,3904
	Kazakhstan > Senegal	,796	0,002**	0,1335	1,4593
	Kazakhstan > Somalia	,684	0,006**	0,0845	1,2842
	Syria > Senegal	,609	0,018*	0,0388	1,1795
	Syria > Somalia	,497	0,048*	0,0014	0,9927
	Turkmenistan > Senegal	,808	0,018*	0,0518	1,5660
<i>Daily Life Adaptation</i>	Azerbaijan > Senegal	,560	0,029*	0,0203	1,0999
	Azerbaijan > Sudan	,538	0,049*	0,0011	1,0749
	Guinea-Bissau < Afghanistan	-,599	0,006**	-1,1282	-0,0712
	Guinea-Bissau < Azerbaijan	-,721	0,000***	-1,2703	-0,1717
	Guinea-Bissau < Chad	-,586	0,001**	-1,0622	-0,1100
	Guinea-Bissau < Kazakhstan	-,627	0,001**	-1,1348	-0,1193
	Guinea-Bissau < Syria	-,676	0,000***	-1,1163	-0,2365
	Guinea-Bissau < Turkmenistan	-,595	0,031*	-1,1727	-0,0185
	Syria > Guinea-Bissau	,676	0,000***	0,2365	1,1163
	Syria > Senegal	,515	0,002**	0,0875	0,9435
	Syria > Sudan	,493	0,004**	0,0691	0,9177
	Turkmenistan > Guinea-Bissau	,595	0,031*	0,0185	1,1727

Relationships among the Sub-Factors of General Adaptation

To illustrate the relationships between the general adaptation and each sub-factor Pearson's correlation analysis was conducted (see Table 14). The findings reveal that there are significant, positive low correlations among all factors. Also, the correlation levels of the factors with the general adaptation are significant, positive, and moderate. In other words, any increase or decrease in each sub-factor directly affects international students' general adaptation levels.

Table 14. Correlations among the factors

Factor	Correlations				
	ACA	SCA	PSA	DLA	General Adaptation
ACA	1	,433*	,353*	,361*	,701*
SCA		1	,286*	,545*	,732*
PSA			1	,324*	,752*
DLA				1	,727*
General Adaptation					1

* $p < .001$

DISCUSSION, CONCLUSION AND IMPLICATIONS

Drawing upon the conceptually vast literature, the current research aiming to determine the multi-dimensional adaptation levels of international students has provided substantial results on academic, psychological, and sociocultural dimensions, as well as the key determinants of the process. According to the preliminary findings in the research, the international students are at a fairly adapted level. In line with this finding, Demiral et al. (2020), who investigated the adaptation level of international medical school students to college life in Türkiye, have reported that the adaptation level of the students is at a satisfactory level. The results obtained in the sub factors are also consistent with the total scale. However, sociocultural adaptation is the factor in which students adapted the most, followed by daily life adaptation and academic adaptation, respectively. In addition, psychological adaptation is the factor to which the students adapted the least. The study finding, in particular to low level psychological adaptation compared to other sub factors, has been evidenced by previous research emphasizing the psychological issues such as distress, anxiety caused mostly by the "culture shock" that sojourning people come across. The related literature, therefore, points out that the majority of international students feel stressed after being engaged in a new culture (Brown & Aktaş, 2011; Brown & Holloway, 2008; Hofstede, 2001). Therefore, it is during these times that social support, a powerful facilitator for international students' adaptation process (Ong & Ward, 2005; Wang, Hong, & Pi, 2015), must be provided to international students to ease their cross-cultural transition. Accordingly, social support programs, including orientation programs, organizing student clubs, social and cultural activities could act as a means of boosting their well-being.

The first five items with the highest mean scores were listed under sociocultural adaptation and daily life adaptation factors. It is noteworthy that while the items under the sociocultural factor were related to the level of adaptation to the cultural values and norms of the host country, the ones placed under the factor of daily life adaptation were directly connected with the students' adaptation to daily life routines such as travelling and shopping in a new place. On the other hand, the first five items with the lowest mean scores were the ones listed under psychological, academic, and daily life adaptation factors. While three items under the psychological factor were related to their feelings about the new environment, the one under the factor of academic adaptation was related to the students' perception of their academic progress. Last but not least, international students'

adaptation level in the context of the basic legal regulations of the host country was among the lowest items on the scale. In fact, this indicates that students need support in some specific areas, especially issues related to psychological adaptation and legal regulations of the host country. To improve the adaptation processes of the students, in order to determine what kind of information they will need before and when they come to the host country, comprehensive needs assessment studies can be conducted, and orientation programs can be developed based on the results obtained.

When the adaptation levels of the students were compared in terms of their genders, it was reported that although there is no significant difference in terms of the total scale, there are significant differences in favor of males in sociocultural and daily life adaptation factors. Contradicting with this finding, some earlier studies have documented that both female and male students vary in terms of sociocultural adaptation in favor of women (Güzel & Glazer, 2019; Lee & Padilla, 2014; Neto & Barros, 2007; Ye, 2006). However, some studies argue that cultural adaptation is of a greater challenge for women (Hu & Cheung, 2021; Sungur et al., 2016). In this regard, one possible explanation is that the majority of females in the study are from Islamic countries where religious and cultural beliefs restrict women's ability to mingle as freely as men. Thus, they might tend to restrain interaction at the initial stages of their experience. In relation to this finding, prior literature (Dupius et al., 2008; Francis & Penny, 2014) indicates that women are more susceptible to environmental changes and some gender roles might also hinder social interaction. The second the variable whose effects were examined within the scope of this study was the scholarship status of the students. Accordingly, there were significant differences between the students who receive scholarships and those who do not, both in total scale and academic adaptation factor. The scholarship students' general adaptation and academic adaptation levels were much higher than the non-scholarship students. This finding corroborates in previous research emphasizing the financial power's moderator role in facilitating the general adaptation process with a special emphasis on the psychological adaptation (Bani Ahmad & Meriç, 2021).

When multiple comparisons were analyzed regarding the duration of stay in Türkiye, it was observed that the mean scores in terms of both general adaptation levels and two factors increased in parallel with the length of stay. However, the differences between the scores were only significant in terms of the total scale and sociocultural adaptation and daily life adaptation factors. When the findings obtained in this research question are evaluated holistically, it can be expressed that the level of adjustment clearly increases as the time spent by the students in the host country increases. These results, therefore, resonate with the other findings in the literature which echoed that the length of stay is a strong predictor of the general adaptation of international students (Çetinkaya-Yıldız, Çakır & Kondakçı, 2011). Similarly, Wilton and Constantine (2003) argue that international students' successful adaptation is closely connected to the length of time they spend in the host cultural setting. Additionally, studies showing that the length of stay in the host country is a significant variable in students' adjustment levels (Sungur et al., 2016) supports the finding of the present study. Considering the finding that the time students stay in the country has a significant effect on their adjustment level; handbooks, guides, introductory videos on basic rules and norms in the country can be prepared to introduce what they should do before coming to the host country and what they should pay attention to when they start university.

Among the findings obtained within this research, the variable that caused the most radical results was the host country's language proficiency levels of the students. Because the findings clearly show that as the students' language levels increase, there are significant differences in both the total scale scores and the level of adjustment in all sub-factors. In particular, students who were at the A1 level, which represents the beginner level, had significantly lower adaptation levels than all other levels in terms of total scale, academic adaptation and sociocultural adaptation factors, and significantly lower mean scores than all other language levels except for A2 level in terms of psychological adaptation and daily life adaptation factors. Similarly, although there are variations in the context of different factors and language proficiency levels, it has been determined that C2 level students had significantly different mean scores not only from A1 level students but also from the students at other levels. A number of qualitative and quantitative studies have proven that students' proficiency in the language of the host country is an important variable on their adaptation (e.g., Karaoğlu, 2007; Özçetin, 2013). Of the main factors that determine the level of adaptation, the host country's language proficiency has been widely documented in earlier research (Çetinkaya-Yıldız, Çakır & Kondakçı, 2011; Duru & Poyrazlı, 2007; Gibss, et al., 2020). Given the significance of being competent in the host language, it is not surprising that A1 level students who might be in the initial period of their adaptation process in which international students often experience anxiety and communication challenges resulting in the development of stress-related issues (Brown & Holloway, 2008), thus; they end up in poor adjustment levels. In relation to the finding that signifies the low-level academic adaptation for the host language deficient students, Kondakci, Van den Broeck and Yildirim (2008) have accentuated the negative impact on academic performance in classrooms. Likewise, Pan et al. (2008) have reported that poor proficiency in the host language leads to a high level of acculturative stress. In sum, parallel with the earlier research, the study has exhibited the robust ties between the host language proficiency and general adaptation levels of international students.

Finally, when the adaptation levels of the students were analyzed regarding the countries they came from, the results were quite striking. It is clear that the mean scores obtained both in the context of the total scale and four factors caused significant differences in terms of the students' countries. Hence, it is noteworthy that students from Azerbaijan, Kazakhstan, and Turkmenistan, which are all Turkic countries, and Syrian students who have been under temporary protection in Türkiye for more than ten years, have higher levels of adaptation than students from some African and Middle Eastern countries. According to Karaoğlu (2007) the cultural differences and similarities between students' country and the host country have a meaningful impact

on the adaptation level of the students, and students coming from Turkic countries adapt more easily and quickly to the Turkish higher education system. Besides, an extensive overview of the literature demonstrates that the degree of cultural distance has a substantial role in facilitating the adjustment process (Brown & Aktaş, 2011; Ward et al., 2001). Therefore, the more cultural beliefs and symbols are represented in the host culture, the easier it is for international students to adjust socially. This finding is unpacked by another study (Kılınc, Arslan, & Polat, 2020) suggesting that international students, particularly from Turkic and Islamic nations, find historical, social, religious, and linguistic linkages and affinities within the host culture, which play an important role in the adjustment process. In light of the above discussion, it is feasible that international students from Azerbaijan, Kazakhstan, and Turkmenistan, countries with historical, cultural, and linguistic ties, as well as Syrian students who have spent more than eleven years in Türkiye, have a higher level of general adaptation than those from other culturally, linguistically, geographically, and historically distant countries.

Based on the research findings, the study offers some implications for practice to mitigate challenges and alleviate the cross-cultural transition of international students. In line with the prior research that advocates providing pre-arrival advice through word of mouth or websites designed for the purpose plays a significant role to ease the adaptation process (Brown & Hollaway, 2008). Drawing upon the importance of pre-arrival service, international students particularly in the first six months of their stay in Türkiye, which is of vital importance for them, should be provided with innovative social orientation programs, including online presentations, on-campus orientations jam-packed with engaging activities, seminars, workshops can be organized to foster the social support, a robust predictor of psychological and sociocultural adaptation. To aid their integration, HEIs should provide academic and social support services to international students. Students might have access to social networks through a range of school organizations, such as student clubs, various extracurricular and sports activities that encourage social engagement on campus. Also, qualitative and mixed-methods research can be carried out, where in-depth information can be obtained directly from first-hand experience to find out what students need in the adaptation process. Longitudinal studies might be conducted to better understand the direction and extent of change in the adaptation processes of international students throughout their university life. The data to be obtained from quantitative studies with broad participation at a level to represent different geographical regions of the country will be the basis for the practices to be developed in the context of improving adaptation processes in the coming years.

Along with the aforementioned, there are also limitations worth considering in the current research. Although this study, conducted with a wide range of participants from 58 different countries, has presented generalizable results reflecting “the big picture” of a Turkish university with more than 11,000 international students, the most significant limitation is that the findings were based solely on quantitative data collected from only one public university. Nevertheless, the study sample is relatively large, which might be generalizable and representative of the population as a whole, allowing for maximum diversity; therefore, we believe this limitation is mainly overcome. However, considering the individual traits, multi-dimensional adaptation mediated by various factors is a unique subjective experience, thus; it may not fit well to universally generalize the study findings, yet they may provide significant insight into further research. In this regard, qualitative or mixed methods research that will allow for in-depth investigation of many different dimensions such as international students’ perceptions of the adaptation process, the challenging and facilitating mechanisms they encounter in this process, the strategies they use to cope with the problems can be carried out through semi-structured interviews, focus group discussions, class observations or document reviews in future research. Besides all, this research is one of the first studies in the literature that examines the adaptation of international students in a multidimensional way, and it provides insights limited to a single public university. Thus, comparative evaluations of the validity and reliability of the research findings can be established by carrying out the same or comparable studies in both public and private universities located in various regions of Türkiye.

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Statements of publication ethics

We hereby declare that the study does not have unethical issues and research and publication ethics have been observed carefully.

Researchers’ contribution rate

The study was conducted and reported with equal collaboration of the researchers.

Ethics Committee Approval Information

This research was conducted with the approval of the Social and Human Sciences Ethics Committee of Karabuk University, dated 30.06.2022 and numbered E-78977401-050.02.04-145193.

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