Investigation of The Relationship Between International Students' Perception of Cultural Intelligence and Their Intercultural Sensitivity and Acculturation[1]

Uluslararası Öğrencilerini Kültürel Zekâ Algı Düzeyi ile Kültürlerarası Duyarlılık ve Kültürlenme Düzeyleri Arasındaki İlişkilerin İncelenmesi

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Article Information/Makale Bilgisi

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Bu çalışma, birinci yazarın ikinci yazarın danışmanlığında hazırladığı doktora tezinden alıntılanarak oluşturulmuştur.

Ethics committee approval was obtained with the permission of Bursa Uludağ University, Social and Human Sciences Ethics Committee, dated 28.08.2020, and numbered (2020-06/3) to carry out this research.

Öz

Bu araştırmada uluslararası öğrencilerin kültürel zekâ algıları ile kültürlerarası duyarlılık ve kültürlenme düzeyleri arasındaki ilişkilerin incelenmesi amaçlanmıştır. Araştırma, Bursa Uludağ Üniversitesi'nde öğrenim gören 353 kadın, 282 erkek katılımcı ile gerçekleştirilmiştir. Katılımcılar farklı ülkelerden gelen ve farklı etnik kökenlerden oluşan öğrencilerdir. Nicel araştırma deseni içinde ilişkisel tarama modelinde tasarlanan araştırmada, veri toplama aracı olarak kültürel zekâ, kültürlerarası duyarlılık ve kültürlenme ölçekleri ve kişisel bilgi formu kullanılmıştır. Verilerin analizinde ölçeklerin yapı geçerliklerinin incelenmesi için Doğrulayıcı Faktör Analizi, güvenirliklerinin incelenmesi için ise Cronbach Alfa iç tutarlık katsayıları hesaplanmış ve yorumlanmıştır. Araştırmada ölçeklerden elde edilen puanlar arasındaki ilişkiler incelenirken Spearman Brown Korelasyon katsayısı hesaplanmış, puanlar arasındaki yordama durumları incelenirken regresyon analizi yapılmıştır. Mevcut araştırmanın sonuçlarına göre, uluslararası öğrencilerin kültürel zeka düzeyleri ile kültürleşme düzeyleri arasında düşük düzeyde pozitif, kültürel zeka düzeyleri ile kültürlerarası duyarlılık düzeyleri arasında orta düzeyde pozitif bir ilişki bulunmuştur.

Anahtar Kelimeler: Uluslararası öğrenciler, kültürel zekâ, kültürlerarası duyarlılık, kültürlenme, eğitim.

Abstract

The aim of the present research is to investigate the relation between the cultural intelligence levels of international students and their acculturation and intercultural sensitivity levels. The research was conducted with a total of 353 female and 282 male participants studying at Bursa Uludağ University. The participants were students from different countries and from different ethnic origins. Scales for measuring intercultural sensitivity, cultural intelligence, and acculturation, as well as a personal information form, were employed in the research, which used a correlational survey model inside a quantitative research design. In the analysis of the data, confirmatory factor analysis was utilized to analyze the construct validity of the scales, and to examine the reliability, the Cronbach alpha internal consistency coefficients were calculated and interpreted. While investigating the relationships between the scores obtained from the scales in the study, the Spearman-Brown correlation coefficient was calculated and regression analysis was implemented when examining the predictive status between the scores. According to the results of the current research, there was a low-level positive relationship between international students' levels of cultural intelligence and acculturation and a moderately positive relationship between their levels of cultural intelligence and intercultural sensitivity.

Keywords: International students, cultural intelligence, Intercultural sensitivity, acculturation, education.

Introduction

Starting from the end of 18th century to the current days, the world has been expanding, deepening, accelerating, and in short, globalizing (Sert, 2015). In this globalizing world, the lives of hundreds of millions of people every year are shaped by the experience of migration. One of these migration experiences is the international student migration taking place voluntarily and temporarily. International students are regarded as human sources that temporarily settle in the country of immigration and contribute to the international competitiveness on an economic basis (Özoğlu et al., 2012). This ongoing student migration between continents and countries has a crucial role in the field of higher education, since it both increases the quality of the universities and contributes to socio-culturally, economically and politically in terms of its contributions to the host country (Günay & Günay, 2011).

In this day and age, with international students' migration, individuals with different cultures get together more easily and this shows that the borders between countries in the field of education become irrelevant. Considering the cultural variations among the international students and the host nation, some cultural adaptation processes are required in order to ensure that the relations and interactions occur smoothly (Appiah et al., 1994; Chen, 2005). Along with the globalization in multinational social structures, the studies in the relevant literature have brought up the question of "why some individuals and societies with different cultures interact more effectively than others" in their communication with foreign cultures in intercultural environments. Earley and Ang (2003) answered this question by claiming that the process of interacting harmoniously with a different culture stemmed not only from the ability to understand its language, but also from the "cultural intelligence" of the individual.

Even though the cultural intelligence concept, that is comparatively recent among the other intelligence types and based on Gardner's multiple intelligences theory, has entered the world literature in the twenty-first century, it is used in many studies to represent its effect on intercultural communication (Thomas & Inkson, 2003). Cultural intelligence is also referred to *"the ability of an individual to adapt effectively to different environments in which s/he is unfamiliar"* (Earley & Ang; 2003, p. 59). In line with this definition, it is predicted that individuals with high cultural intelligence will do better when residing and working abroad. Many studies conducted in this context proved that people having higher cultural intelligence are more effective in cultural interaction (Ang et al., 2006; Ang et al., 2007; MacNab & Worthley, 2012; Temple et al., 2006).

Regarding cultural intelligence, referred to the ability to adapt to different cultures, it is important for the individual to develop harmonious relations in communication and to be willing to accept differences (Bhawuk & Brislin, 1992). It is thought that with this skill, which is defined under the intercultural sensitivity idea in the studies, individuals can establish healthier relationships on a cultural basis. Intercultural sensitivity is a concept that determines the basic relationships of the individual in situations where different cultural interactions take place (Yuen & Grossman, 2009). In the "Developmental Intercultural Sensitivity Model" first proposed by Bennett & Bennett (1993), it is argued that individuals tend to transform themselves from the ethnocentric phase to the ethnorelative phase. In the prediction of the model, as individuals encounter cultural differences, they provide themselves with a theoretical framework to make sense of and evaluate the cognitive growth process that occurs especially within the framework of intercultural adaptation and conformity. Another concept encountered in studies on cultural adaptation is acculturation. According to Gardner's (1983) multiple intelligence theory, individuals with cultural intelligence can interact with their environment through acculturation and demonstrate that they have different abilities. In the acculturation process, the individual's high cultural intelligence opens up more contact and communication areas. The classical acculturation definition was formulated by Redfield et al. (1936) as individuals and communities with dissimilar cultures continually making first-hand contact with the phenomena that occur, followed by the modifications in each group's original cultural structures. As such, acculturation is a procedure that occurs as a result of contacts that lead to changes in the host nation's culture or the original culture. Undoubtedly, these contacts are formed by human mobility that occurs daily in the modern world.

The fact that Turkey has a geographical position full of advantages as a country that carries the characteristics of a Balkan, Middle Eastern, Caucasian, Black Sea, Mediterranean and Eurasian state at the same time, and that it has numerous and various universities, faculties, and departments in the high education area, enables it to receive migrants from innumerable countries. International pupils from various geographical regions, particularly from the Turkic republics, Africa, and, the Middle East receive education in our country, which transforms our country into a multicultural and multi-faith society (https://istatistik.yok.gov.tr). Thanks to Turkey's multicultural and multi-faith composition, individuals with the capability to communicate, understand and empathize with individuals from various cultures are required. The fact that the international higher education students who come to Turkey have this requirement contributes to the social cohesion of individuals and encourages them to accept and learn from the differences. In fact, in the present century, the requirement for sustainable

intercultural relations via effective intercultural sensitivity and communication has become a necessity for our country, which has different races and religions. The multicultural structure in societies necessitates this form of communication. It is possible to find studies on the subject in which cultural intelligence had an impact on the intercultural sensitivity level and acculturation of individuals (Berry, 1997; Berry et al., 2006). It is clear that international students' levels of the acculturation, intercultural sensitivity and cultural intelligence in the world as well as in our country are required in multicultural education environments; however, the studies in these areas are still new and insufficient in number (Ang, 2007; Yuen & Grossman, 2009; Tsai & Lawrence, 2011; Kaur & Pany, 2018). In this context, more scientific studies are needed in an attempt to reduce the cultural adaptation problems experienced by the international students who have migrated to our country, identify the differences and better explain the benefits and drawbacks of these differences. The present study, in this sense, has been implemented in order to observe the scientific gap in the relevant literature and provide the harmonious race relations needed in today's multicultural societies.

The problem statement of the research is: "What are the relationships between the cultural intelligence levels of international students and their levels of intercultural sensitivity and acculturation?" The sub-problems of the study are as follows:

1. What are the cultural intelligence, intercultural sensitivity, and acculturation perception levels of international students?

2. Do the cultural intelligence levels of international students significantly predict their intercultural sensitivity levels?

3. Do the cultural intelligence levels of international students significantly predict their acculturation levels?

1. Method

1.1. Research Model

The correlational survey model was used in the current study's quantitative research approach. A research methodology called the correlational survey model seeks to show if or how two or more variables are related (Karasar, 2017, p. 114). This research model is accepted as a powerful approach in terms of receiving responses about the variables and examining the variables and the indicators of the variables with various questions at the same time (Neuman, 2007).

1.2. Participant Group

The participant sample of the research included international university students attending the education at Bursa Uludağ University during the 2020-2021 academic years. Bursa Uludağ University is an educational institution that hosts more than 7,000 international students from different cultures (https://istatistik.yok.gov.tr/). In this respect, it has been accepted as a suitable field for the study. In the research, students were chosen by purposive sampling method. Purposive sampling allows the inclusion of individuals most suitable for the purpose of the study (Cohen et al., 2007). A total of 588 students responded to the personal information form and scales applied within the scope of the study. However, after the extreme values were excluded, the study was continued with the data of 588 participants. Accordingly, the participant group of the research consisted of 588 international university students attending the associate, undergraduate and postgraduate degree educations at Bursa Uludağ University. The distribution of the participant group by demographic characteristics is illustrated in Table 1.

Table 1. Distribution of The Participant Group by Demographic Characteristics

Variable	Category	N	%
Gender	Female	334	56,8
	Male	254	43,1
	Total	588	100.0
Geographical Area of Origin	Asia	302	51,3
	Africa	48	8,1
	Europe	118	20,0
	America	4	0,6
	Middle East	92	15,6
	Other	24	4,0
	Total	588	100.0

In Table 1, it is clear that the majority of the international students as the participants in the research were females (56.8%) and were mostly composed of students from the Asian continent (51.3%). It is noticeable that the participant group mostly migrated from geographical areas close to Turkey.

1.3. Data Collection Tools

A form for personal information, intercultural sensitivity, cultural intelligence, and acculturation scales were employed in this research for gathering data.

1.3.1. Personal Information Form

The researcher's form was used to access data on various demographic characteristics of the students. The content of the form consisted of questions on the students' gender and geographical area of origin.

1.3.2. Cultural Intelligence Scale (CIS)

The scale, created by Ang et al. (2007) to examine people's degrees of cultural intelligence, was translated into Turkish by İlhan and Çetin (2014). The scale comprises 20 items and a 7-point Likert-style rating. The sub-dimensions of the scale *metacognitive, cognitive*, *motivational* and *behavioral* cultural intelligence. The factors' respective Cronbach's alpha values were estimated to be .77, .79, .75, and .71, and the reliability coefficient for the entire scale was discovered to be .85.

1.3.3. Intercultural Sensitivity Scale (ISS)

Üstün (2011) translated the scale created by Chen and Starosta (2000) into Turkish. There are 5 sub-dimensions on the scale, which comprises 24 elements. The sub-dimensions of the scale are participation in intercultural interaction, respect for cultural diversity, self-confidence in intercultural interaction, enjoyment of intercultural interaction and attention to intercultural interaction. The Turkish version's alpha coefficient was discovered to be .90, whereas the original form of the scale's Cronbach alpha coefficient was measured to be .88.

1.3.4. Acculturation Questionnaire

There are 84 items in the questionnaire developed by Aliyev (2011). The scale has three sub-dimensions. The sub-dimensions of the scale are *assimilation*, *separation*, and *integration*. The overall score that may be determined from the scale can range between 84 and 420, and the Cronbach alpha value for the full acculturation questionnaire was observed as .82.

1.4. Data Collection

The study's data were voluntarily gathered by sending a "Google online form" to international students enrolled at Bursa Uludag University's 2020–2021 academic years at their respective "uludag.ogr.edu.tr" e-mail addresses. The scales and personal information form were delivered to the students via the international student office in line with the ethical permission obtained from the Bursa Uludağ University Rectorate. The measurement tools were sent to the e-mail addresses of a total of seven thousand international students. 635 students responded to the measurement tools, but after the exclusion of extreme values, the study was continued with the data of 588 people.

1.5. Data Analysis

The construct validity of the measures utilized in the research was tested by employing confirmatory factor analysis. Following the research, it was noted that the standardized factor loading values showing the correlations between each observed variable and the latent variable obtained for the CIS varied between 0.54 and 0.76 for the 1st factor (*Metacognition*), between 0.55 and 0.68 for the 2nd factor (*Cognition*), between 0.46 and 0.74 for the 3rd factor (*Motivation*) and between 0.50 and 0.80 for the 4th factor (*Behavior*).

It was observed that the standardized factor loading values for the ISS varied between 0.36 and 0.67 for the 1st factor (*participation in intercultural interaction*), between 0.47 and 0.76 for the 2nd factor (*respect for cultural differences*), between 0.30 and 0.82 for the 3rd factor (*confidence in intercultural interaction*), between 0.60 and 0.78 for the 4th factor (*enjoyment from intercultural interaction*), and between 0.63 and 0.65 for the 5th factor (*attention to intercultural interaction*).

It was observed that the standardized factor loading values for the acculturation questionnaire ranged between 0.30 and 0.92 for the 1st factor (*Separation*), between 0.48 and 0.88 for the 2nd factor (*Assimilation*), and between 0.28 and 0.76 for the 3rd factor (*Integration*).

The *p* value showing the importance of the difference between the expected covariance matrix and the observed covariance matrix was 0.01, and it was found that it was significant for all three scales. Nevertheless, the probability of a high *p* value in large samples is high (Yılmaz, 2009).

The reliability of the scales was investigated by employing the computed Cronbach alpha internal consistency coefficients and it was found that they were 0.86 for the CIS, 0.76 for the ISS and 0.90 for the acculturation questionnaire. Based on these data, it is possible to say that the reliability coefficients of all scales were high (Özdamar, 2004). To be able to establish the analysis method to be applied, the Kolmogrov-Smirnov and Shapiro-Wilk test results were examined, and it was established whether the scores obtained from the scales displayed normal distribution (p<.05). Since the scores from the scales and sub-dimensions of cultural intelligence, intercultural sensitivity and acculturation did not display normal distribution, it was decided to use non-parametric tests in the analyses. In the research, the Spearman-Brown correlation coefficient was calculated while examining the relations between the scores obtained from the cultural intelligence, intercultural sensitivity and acculturation scales, and a regression analysis was performed when examining the predictive status between the scores.

2. Results

2.1. Findings about the 1stisub-problem

The 1st sub-problem of the research was structured as *"What are the cultural intelligence, intercultural sensitivity, and acculturation perception level of international students?"* The findings regarding the minimum, maximum, arithmetic average, standard deviation, and transformed mean values obtained from the total scores of the scales are illustrated in Table 2.

Table 2. Descriptive Statistics on The Levels of Cultural Intelligence, Intercultural Sensitivity   and Acculturation of The International Students

Scale and its Sub-dimensions	N	Min.	Max.	$\overline{X}$	SS	SD
Cultural Intelligence	588	47.00	100.00	76.70	9.69	3.83
Metacognition	588	9.00	20.00	16.29	2.44	4.07
Cognition	588	9.00	30.00	20.78	4.02	3.46
Motivation	588	12.00	25.00	20.57	3.04	4.11
Behavior	588	9.00	25.00	19.05	3.50	3.81
Intercultural Sensitivity	588	66.80	107.00	87.06	8.76	3.62
Participation in Intercultural Interaction	588	17.80	35.00	27.76	3.53	3.96
Respect for Intercultural Differences	588	15.00	30.00	22.59	2.90	3.76
Self-confidence in Intercultural Interaction	588	11.00	22.20	16.71	1.95	3.34
Enjoyment from Intercultural Interaction	588	4.00	15.00	11.66	2.57	3.88
Attention to Intercultural Interaction	588	5.00	10.00	8.32	1.294	2.77
Acculturation	588	179.00	373.00	274.60	31.88	3.26
Separation	588	24.00	111.00	71.81	17.21	2.99
Assimilation	588	38.00	143.00	82.24	20.54	2.74
Integration	588	76.00	150.00	120.54	16.65	4.08

**p<0.05

According to Table 2, it is clear that the minimum value representing the cultural intelligence perception levels of international students is 47.00 and the maximum value is 100.00. In the scale's sub-dimensions, the minimum values representing the cultural intelligence level of the students vary between 9.00 and 12.00, and the maximum values vary between 20.00 and 30.00. The mean score obtained by the students from the entire CIS is ($\overline{X}$=76.70, and this value corresponds to the "I agree" and "I am undecided" answers of the students. While the transformed means in Table 2 were obtained, the averages were split by the quantity of items in each sub-dimension and converted into a 1-5 Likert range in order to ensure the comparability of the scores. When these means are checked, it is observed that the highest mean belongs to the sub-dimension of *motivation* ($\overline{X}$=4.1160) and the lowest average belongs to the sub-dimension of *cognition* ($\overline{X}$ =3.4640).

In Table 2, it is clear that the minimum and maximum values representing the international students' levels of intercultural sensitivity are between 66.80 and 107.00. In the scale sub-dimensions, the minimum values representing the intercultural sensitivity levels of the students vary between 4.00 and 17.80, and the maximum values vary between 10.00 and

35.00. In Table 2, the mean score measured from the entire ISS is ($\bar{X}$=87.0614). This value corresponds to the "I agree" and "I am undecided" answers of the students. When the transformed means in Table 2 are concerned, the highest mean comes from the sub-dimension of *participation in intercultural interaction* ($\bar{X}$=3.9661) and the lowest mean is observed at the sub-dimension of *attention to intercultural interaction* ($\bar{X}$ =2.7766).

In Table 2, it is observed that the minimum and maximum values representing the acculturation levels of international students are between 179.00 and 373.00. In the scale sub-dimensions, it is seen that the minimum values representing the acculturation levels of the students vary between 24.00 and 76.00, and the maximum values vary between 111.00 and 150.00. Thus, the average score obtained from the entire acculturation questionnaire in Table 2 is ($\bar{X}$ =274,6020). This value obtained from the entire acculturation questionnaire corresponds to the "I agree" and "I am undecided" answers of the students. When the transformed means in Table 2 are analyzed, it is observed that the highest mean belongs to the *integration* sub-dimension ($\bar{X}$ =4.081) and the lowest average comes from the *assimilation* sub-dimension ($\bar{X}$=2.741).

Another sub-problem of the research was structured as "Is there a significant relation between the cultural intelligence levels of international students and their levels of intercultural sensitivity?" For this purpose, the results of the Spearman correlation test regarding the scores measured at the CIS and its sub-dimensions, and the scores of the ISS and its sub-dimensions are illustrated in Table 3.

Table 3. Correlation Test Results Between Cultural Intelligence and Intercultural Sensitivity

Scale and its Sub-dimensions	Spearman Correlation Coefficient	Cultural Intelligence	Metacognition	Cognition	Motivation	Behavior
Intercultural Sensitivity	Spearman r	.557**	.467**	.261**	.601**	.402**
Participation in Intercultural Interaction	Spearman r	.540**	.442**	.255**	.546**	.417**
Respect for Cultural Differences	Spearman r	.452**	.364**	.227**	.458**	.313**
Self-confidence in Intercultural Interaction	Spearman r	.342**	.255**	.230**	.341**	.212**
Enjoyment from Intercultural Interaction	Spearman r	.266**	.229**	.086*	.377**	.223**
Attention to Intercultural Interaction	Spearman r	.479**	.441**	.271**	.463**	.335**

**p<0.05

At Table 3, it is observed that there is a moderate positive relation (r=.557, p<.05) between the cultural intelligence levels of international students and their intercultural sensitivity levels. It is observed that among the sub-dimensions of international students' cultural intelligence levels and intercultural sensitivity levels, there are moderate positive statistically significant relations between *participation in intercultural interaction* (r=.540, p<.05), *respect for cultural differences* (r=.452, p<.05), *self-confidence in intercultural interaction* (r=.342, p<.05), *enjoyment from intercultural interaction* (r=.266, p<.05), and *attention to intercultural interaction* (r=.479, p<.05).

It is observed that there is a moderate positive relation between the *metacognition* levels and intercultural sensitivity (r=.467, p<.05), *participation in intercultural interaction* (r=.442, p<.05), *respect for cultural differences* (r=.364, p<.05) and *attention to intercultural interaction* (r=.441, p<.05); and that there are low-level positive significant relationships between the levels of *self-confidence in intercultural interaction* (r=.255, p<.05) and *enjoyment from intercultural interaction* (r=.229, p<.05) of the international students.

It is observed that there is low-level positive significant relation between the *cognition* levels and *intercultural sensitivity* (r=.261, p<.05), *participation in intercultural interaction* (r=.255, p<.05), *respect for cultural differences* (r=.227, p<.05), *self-confidence in intercultural interaction* (r=.230, p<.05), *enjoyment from intercultural interaction* (r=.086, p<.05) and *attention to intercultural interaction* (r=.271, p<.05) of the international students.

It is seen that there are moderate positive significant relationships between the *motivation* levels and *intercultural sensitivity* (r=.601, p<.05), *participation in intercultural interaction* (r=.546, p<.05), *respect for cultural differences* (r=.458, p<.05), *self-confidence in intercultural interaction* (r=.341, p<.05), *enjoyment from intercultural interaction* (r=.377, p<.05) and *attention to intercultural interaction* (r=.463, p<.05) of the international students.

It is observed that there are low-level positive significant relation between the *behavior* levels and *intercultural sensitivity* (r=.402, p<.05), *participation in intercultural interaction* (r=.417, p<.05), *respect for cultural differences* (r=.313, p<.05), and *self-confidence in intercultural interaction* (r=.212, p<.05); and that there is a moderate positive significant relation between the levels *of enjoyment from intercultural interaction* (r=.223, p<.05) and *attention to intercultural interaction* (r=.335, p<.05) of the international students.

Another sub-problem of the study was structured as "Is there a significant relation between the cultural intelligence levels of international students and their acculturation levels?" For this purpose, the results of the Spearman correlation test regarding the scores obtained from the CIS and its sub-dimensions and the scores obtained from the acculturation questionnaire and its sub-dimensions are given in Table 4.

Table 4. Correlation Test Results Between Cultural Intelligence and Acculturation

Scale and its Sub-dimensions		Cultural Intelligence	Metacognition	Cognition	Motivation	Behavior
Acculturation	Spearman r	.095*	.050	-.023	.129**	.199**
	p	.021	.223	.584	.002	.000
	N	588	588	588	588	588
Separation	Spearman r	-.130**	-.104*	-.038	-.177**	-.070
	p	.002	.012	.356	.000	.092
	N	588	588	588	588	588
Assimilation	Spearman r	-.077	-.056	-.118**	-.057	.038
	p	.061	.172	.004	.170	.354
	N	588	588	588	588	588
Integration	Spearman r	.411**	.284**	.164**	.462**	.389**
	p	.000	.000	.000	.000	.000
	N	588	588	588	588	588

**p<0.05

When Table 4 is examined, it is observed that there are low-level positive relationships between the cultural intelligence levels and acculturation levels of the international students (r=.095, p<.05), and a low-level negative relationship between the *separation* (r=-.130, p<.05) and the *integration* levels (r=.411, p<.05); however, it is also seen that there is no statistically significant relationship between them and *assimilation* (r=-.077, p>.05).

It was found that there is a low negative level significant relation between international students' *metacognition* and *separation* levels (r=-0.104, p<.05), and a low-level positive significant relation between *integration* levels (r=.284, p<.05); however, there is no statistically significant relation between the *assimilation* (r=-0.056, p>.05) and *acculturation levels* (r=.050, p>.05) of the international students.

It is observed that there is a statistically low-level negative significant relation between the *cognition* and *assimilation* levels of international students (r=-0.118, p<.05), and a low-level positive relation between *integration* levels (r=.164, p<.05), but no statistically significant relation between the *separation* (r=-0.038, p>.05) and acculturation levels (r=-0.023, p>.05) of the international students.

It is seen that there is a statistically low-level positive significant relation between the level of *motivation* and acculturation (r=.129, p<.05), a statistically low-level negative significant relation between *separation* levels (r=-0.177, p<.05), and a moderate positive significant relation between the *integration* levels (r=.462, p<.05); however, there is no statistically significant relation between the *assimilation* levels (r=-0.057, p>.05) of the international students.

It is observed that there is a statistically low-level positive significant relation between the *behavior* levels and acculturation levels (r=.199, p<.05), and a statistically positive significant relation between the *integration* levels (r=.389, p<.05); however, there is no statistically significant relation between the *separation* (r=-0.070, p>.05) and *assimilation* levels (r=0.38, p>.05) of the international students.

2.2. Findings About The 2nd Sub-Problem

The second sub-problem of the study was structured as *"Do the cultural intelligence levels of international students significantly predict their intercultural sensitivity levels?"* For this purpose, multiple linear regression analysis was applied to the analyses.

Before the regression analysis, the assumptions of the regression analysis, which are autocorrelation, multicollinearity problem, and normality, were examined in accordance with skewness and kurtosis. The Durbin-Watson test was performed to investigate the autocorrelation problem and the result was calculated as DB=1.733. The fact that this value was close to 2 indicated that there was no autocorrelation problem (Öztürk, 2005). The VIF values were examined for the multicollinearity problem and it was clear that the VIF values varied between 1.309 and 1.541. The fact that these values were less than 10 indicated that there was no multicollinearity problem (Hair et al., 2003).

The results of the multiple linear regression analysis conducted to examine the effects of the scores obtained from the CIS and its sub-dimensions on the intercultural sensitivity levels of the students are illustrated in Table 5.

Table 5. Multiple Regression Analysis Results for The Prediction of Intercultural Sensitivity Level

Variable	B	Stand. Error	β	t	p	Binary r	Partial r
Constant	38.903	2.254		17.256	.000		
Metacognition	.978	.127	.273	7.723	.000	.480	.305
Cognition	.019	.076	.009	.254	.799	.294	.011
Motivation	1.388	.103	.481	13.492	.000	.616	.488
Behavior	.172	.095	.069	1.817	.070	.421	.075
R = 0.677	R^2= 0.459						
$F_{(4.587)}$ = 123.626	p = 0.000						

*p<0.05

When the binary and partial correlations between the predictor variables and the predicted variable in Table 5 are examined, it is seen that there is a moderate positive correlation between *metacognition* and intercultural sensitivity (r_{binary}=.480), and when other variables are controlled, the correlation decreases slightly ($r_{partial}$=.305).

It is seen that there is a low-level positive relation between *cognition* and intercultural sensitivity (r_{binary}=.294), and when other variables are controlled, the correlation decreases slightly ($r_{partial}$=.011). It is seen that there is a moderate positive correlation between *motivation* and intercultural sensitivity (r_{binary}=.616), and when other variables are controlled, the correlation decreases slightly ($r_{partial}$=.488). It is seen that there is a moderate positive correlation between *behavior* and intercultural sensitivity (r_{binary}=.421), and when other variables are controlled, the correlation decreases slightly ($r_{partial}$=.075).

Metacognition, *cognition*, *motivation,* and *behavior* scores together have a moderate and significant relationship with intercultural sensitivity, and the regression model is significant (R =.677, p<.05). *Metacognition*, *cognition*, *motivation,* and *behavior* scores together explain 45.9% of the variance in the level of intercultural sensitivity (R^2=.459).

According to the standardized regression coefficient (β), the relative importance of the predictor variables on the level of intercultural sensitivity is *motivation, metacognition, behavior,* and *cognition*, respectively. According to the t-test results regarding the significance of the regression coefficient presented in Table 5, it is seen that *metacognition* and *motivation* scores are significant predictors of the level of intercultural sensitivity, but that *cognition* and *behavior* scores do not have a significant effect on the level of intercultural sensitivity. The regression equation for predicting the level of intercultural sensitivity according to the results of the analysis is illustrated in Table 6.

Table 6. Regression Equation for The Prediction of Intercultural Sensitivity Level

Intercultural Sensitivity = 38.903+ 1.388 *Motivation* + 0.978 *Metacognition* + 0.172 *Behavior* + 0.019 *Cognition*

When Table 6 is examined, a 1-unit increase in the *motivation* score generates an increase of 1.388 units in the level of intercultural sensitivity. An increase of 1 unit in the *metacognition* score leads to an increase of 0.978 units in the level of intercultural sensitivity. An increase of 1 unit in the *behavior* score generates an increase of 0.172 units in the level of intercultural sensitivity. An increase of 1 unit in the *cognition* score leads to an increase of 0.019 units in the level of intercultural sensitivity.

2. 3. Findings Regarding The Third Sub-Problem

The third sub-problem of the study was structured as *"Do the cultural intelligence levels of international students significantly predict their acculturation levels?* "For this purpose, the results of the multiple linear regression analysis performed in the analyses are presented in Table 7.

Table 7. Multiple Regression Analysis Results for The Prediction of Acculturation Level

Variable	B	Stand. Error	β	t	p	Binary r	Partial r
Constant	245.629	10.887		22.561	.000		
Metacognition	-.153	.611	-.012	.251	.802	.061	-.010
Cognition	-.729	.366	-.092	1.990	.047	.008	-.082
Motivation	.431	.497	.041	.867	.386	.113	.036
Behavior	1.982	.457	.218	4.340	.000	.194	.177
R = 0.213	R^2= 0.045	AdjR=0.039					
$F_{(4.587)}$ = 6.943	p = 0.000						

When the bilateral and partial correlations between the predictor variables and the predicted variable in Table 7 are examined, it is seen that there is a low-level positive relationship between *metacognition* and acculturation (r_{binary}=,061), and when other variables are controlled, the correlation changes direction and decreases slightly ($r_{partial}$=-0,010).

It is seen that there is a low-level positive relationship between *cognition* and acculturation (r_{binary}=,008), and when other variables are controlled, it is seen that the correlation changes direction and increases slightly ($r_{partial}$=-0,082). There is a low-level positive relationship between *motivation* and acculturation (r_{binary}=,113), and when other variables are controlled, it is seen that the correlation decreases slightly ($r_{partial}$=,036). There is a moderate positive relationship between *behavior* and acculturation ($r_{partial}$=,194) and when other variables are controlled, it is seen that the correlation decreases slightly ($r_{partial}$=,177).

Metacognition, cognition, motivation, and *behavior* scores have a low-level and significant relationship with acculturation, and the regression model is significant (R=.213, p<.05). *Metacognition, cognition, motivation,* and *behavior* scores together explain 4.5% of the variance in the level of intercultural sensitivity (R^2=.045).

According to the standardized regression coefficient (β), the relative importance of the predictor variables on the acculturation level is *behavior, cognition, motivation* and *metacognition*, respectively. According to the t-test results regarding the significance of the regression coefficient presented in Table 7, it is seen that the *cognition* and *behavior* scores are significant predictors of the level of intercultural sensitivity; however, the *metacognition* and *motivation* scores do not have a significant effect on the level of acculturation. The regression equation for the prediction of acculturation level according to the analysis results is illustrated in Table 8.

Table 8. Regression Equation for The Prediction of Acculturation Level

Acculturation = 245.629 + 1.982 *Behavior* – 0.729 *Cognition*

When Table 8 is analyzed, an increase of 1 unit in the *behavior* score generates an increase of 1.982 units in the acculturation level. A 1-unit increase in the *cognition* score leads to a 0.729-unit decrease in acculturation level.

Conclusion, Discussion and Recommendations

In this study, in which the relationships between the cultural intelligence levels of international students and their levels of intercultural sensitivity and acculturation were investigated, it was concluded that the scores representing the cultural intelligence levels of the students were at a relatively moderate level. Furthermore, the fact that students' *motivational* cultural intelligence levels were higher than those in the other sub-dimensions illustrated that their interest, trust and desire in the process of adapting to the new environment were relatively higher. Along these lines, students were able to attain the motivation to show more resistance to the difficulties they encountered in the new cultural environment. The fact that the *cognitive* cultural intelligence levels of the students in the study were lower than those in the other sub-dimensions testified that the knowledge of these individuals about the cultural environment of their living spaces (such as the city they live in and the lifestyle of the people) was at a limited level. It is possible to say that the international students had the ability to

communicate effectively in their new cultural environment. The students were able to successfully adapt to the culture they lived in as foreigners and while explaining the behavior of the individuals around them, they were able to empathize with them and proceeded devoid of prejudices. In the related literature, it is stated that the cultural intelligence of international students is above the average (Şen, 2019); It is possible to come across studies in which *cognitive* cultural intelligence is lower than that in other sub-dimensions (Konate, 2018; Şen, 2019; Yoğurtçu, 2015).

In this study, it was concluded that the students' intercultural sensitivity scores were at a relatively moderate level. Therefore, it is possible to say that students were receptive to experiencing cultural differences, and had self-esteem, open-mindedness and empathy skills. The international students were able to display sensitivity to the different cultures around them and managed to alter their own behavior accordingly. The high value in the mean score of the students' *participation in intercultural interaction* sub-dimension demonstrated that their ability to express themselves was maintained in their new cultural environment. The relatively low value in the sub-dimension *of attention to intercultural interaction* signified that they did not obtain enough information about communicating with different cultures and making observations. They are studies on the subject, both in Turkiye and in different countries of the world, in which the intercultural sensitivity of international students is moderate (Abaslı, 2018) and high (Bosuwon, 2017; McMurray, 2007), and especially the level of respect for cultural differences is high (Bae & Song, 2017).

In the present study, it was concluded that the students' scores obtained from the acculturation questionnaire were at a relatively moderate level. As far as this result is concerned, it is possible to say that the international students were receptive to the changes they encountered in different cultural environments. Among these changes, the attitudes, behaviors, values and sense of cultural identity they displayed towards the individuals in the new culture can be indicated. At this point, it became easier for the students to adapt to the new society. The fact that the value of the *integration* sub-dimension was higher than that in the other sub-dimensions illustrated that the students both tried to preserve their original culture and continued their efforts to interact with those in the other group. The students had a conciliatory action style on common grounds. The low mean score of the *assimilation* sub-dimension demonstrated that they were not reluctant to protect their cultural identity and that they did not fully counterbalance the similarity towards Turkish culture. In the relevant literature, studies can be found supporting the fact that the acculturation strategy preferred by international students is *integration* (Balcı & Öğüt, 2019; Gülnar, 2011), they prefer the *integration* strategy more as their age increases (Aliyev & Öğülmüş, 2016) and they do not have many problems in adapting to Turkish society and culture (Özçetin, 2013).

In the present study, it was concluded that there was a moderate positive relationship between the cultural intelligence levels of the students and their intercultural sensitivity levels. According to this result, as the level of cultural intelligence of international students increased, their level of intercultural sensitivity increased as well. Students' recognition of the host country's demands and the development of their behavior in this direction made them appropriate and effective for intercultural communication. This enabled the students to become involved in actions that offered more opportunities for intercultural contacts and interactions. When the relevant literature is examined, it is clearly seen that there are similar results in studies examining the relationships between the cultural intelligence levels of international students and their intercultural sensitivity levels (Abaslı & Polat, 2019; Amiri et al., 2010; Konate, 2018; Özdemir, 2019).

In the present study, it was concluded that there were positive and low-level significant relationships between students' cultural intelligence levels and acculturation levels. Therefore, there was a mutual interaction and exchange process with the development of knowledge, emotion and behavior in accordance with the relevant culture and this could turn into a voluntary acculturation process (Abaslı & Polat, 2019; Amiri et al., 2010; Çelik & Eflatun, 2020; Kaur & Pany, 2018; Özdemir, 2019; Şen, 2019; Tsai & Lawrence, 2011; Tutuş, 2020). With high cultural intelligence, the ability to interact with individuals from foreign cultures increases, the anxiety experienced in intercultural communication decreases (Ready, 2019; Külli, 2019), and thus, the more successful progress of intercultural relations is ensured.

This study concluded that the levels of cultural intelligence, intercultural sensitivity, and acculturation of international students are at an intermediate level. In this context, various orientation programs can be developed at universities. Activities to introduce international students to universities and our country can be organized.

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Statement on Research and Publication Ethics

We declare that we pay attention to all ethical principles and rules in the collection, analysis and reporting of data.

Contribution Rate of Researchers

The first author contributed %70 and the second author contributed %30 to the research.

Statement on Interest

There is no conflict of interest between the authors.