# Teaching Locally, Acting Globally: The Effect of Pre-Service Teachers' Cultural Intelligence Levels on Their Perceptions of Global Citizens

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#### **Abstract**

The purpose of this study was to examine the relationship between cultural intelligence and global citizenship. The study group of the research consisted of 336 pre-service teachers, including pedagogical formation students, selected by a random sampling method from a state university in eastern Turkey, where the immigrant population is dense. Both the "Cultural Intelligence Scale" and "Global Citizenship Scale" were used as data collection tools. In order to statistically determine the levels of cultural intelligence and global citizenship by demographic variables, independent samples ttest and one-way ANOVA were employed by the researcher. Likewise, while the Pearson productmoment correlation analysis was implemented to examine the relationships among the variables, multiple regression analysis was used to determine the predictive coefficients between the variables. Based on the research findings, cultural intelligence was positively correlated with global citizenship. The behavioral dimension of cultural intelligence was the best predictor of global competence. Cultural intelligence levels of pre-service teachers seem to have a significant impact on shaping their process of becoming global citizens. If a person could be able to change his or her body language, spoken language, expressions, and behaviors when encountering any person or people from different ethnic groups and identities, this would mean that s/he is using the behavioral component of cultural intelligence. In this respect, cultural intelligence facilitates being a global citizen and increases adaptation. Therefore, the dimension of cultural intelligence evidently appears to be an essential factor for global citizenship.

Keywords: Intelligence, Culture, Cultural Intelligence, Citizenship, Global Citizen

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## **INTRODUCTION**

The need for people to live together has revealed culture as a mechanism that regulates the relations between them (Demirel & Kişman, 2001). Culture is the identity of a nation. According to Browne (2008), culture is the life path that any society shapes by learning language, beliefs, values, norms, customs, dress, nutrition, roles, knowledge, skills and other things. One of the most important aspects of the 21st century is to manage and harmonize human communities from different cultures (Du plessis, 2011). The necessity of different cultures to live together has given citizenship a different meaning. Harris (2006) stated that due to the inevitable intercultural interaction, cultural skills have increased a lot today. He also stated that cultural abilities, that is, cultural intelligence, are an important factor in facilitating intercultural interaction and communication. Cultural intelligence could be an important tool for people to become global citizens. Because people who can use different dimensions of intelligence might more easily understand other people in the world. They can communicate and empathize more easily with them. In this respect, the concept of cultural intelligence becomes a vital concept.

In the classical sense, citizenship is a state of legal priorities, rights and responsibilities for people of any national identity. With globalization and the new information age, some changes have occurred in the concepts of national identity and classical citizenship. The concepts of multiculturalism, cultural intelligence and global citizenship have emerged with this new trend.

## The concept of Cultural Intelligence

P. Christopher Earley and Elaine Mosakowski introduced cultural intelligence as a new type of intelligence for the first time. This concept is expressed in English as "Cultural Intelligence" (CI), or "Individual's Cultural Quotient" (CQ). Howard Gardner presented the intelligence theory with 7 different dimensions by extending it from a single dimension in 1983. Thus, these 7 different types of intelligence emerged as a separate theory. These were musical intelligence, linguistic intelligence, spatial intelligence, mathematical intelligence, interpersonal intelligence, kinesthetic intelligence and naturalistic intelligence. Cultural intelligence, which was added to these later, emerged as a type of intelligence that is influenced by each of this intelligence and carries something from each of them (Gardner, 1983).

P. Christopher Earley and Elaine Mosakowski defined cultural intelligence as the successful adaptation of an individual to different or multinational cultures. According to Earley & Mosakowski (2004), an individual's adaptation to a different cultural environment is proportional to his/her cultural intelligence level. In other words, individuals with high cultural intelligence could easily adapt to different cultures, while individuals with low cultural intelligence levels are difficult to adapt (Earley & Mosakowski, 2004). The main way to ensure successful integration with different cultures is to have cultural intelligence. Individuals with cultural intelligence developed intercultural abilities and skills (Johnson et al, 2006). Cultural intelligence is an individual's capacity to effectively use intercultural communication, which can include national, ethnic, organizational and other types of culture (Ang & Van Dyne, 2008; Earley & Ang, 2003). Cultural intelligence, for instance, is the fact that a Turkish sees a Frenchman as his friend and treats him like a friend (Yeşil, 2010). Maznevski (2006), on the other hand, defined cultural intelligence as respecting people from other cultures, accepting them as they are and managing intercultural problems. Cultural intelligence is the behavioral success of individuals in multicultural environments (Şahin, 2011). Being able to understand the cultures of other societies and being sensitive to them might help them to be a world citizen more easily. Sensitivity towards different cultures enables them to develop positive feelings towards their cultures. In other words, approaching them without prejudice helps them understand, listen, get to know and respect them (Balcı & Bekiroğlu, 2011).

Culturally intelligent people might understand individuals from other cultures in every sense. When a Turkish citizen sees a Japanese gesture or facial expression, s/he says "Oh, you did it just like the Japanese!" when s/he sees it, which is an example of cultural intelligence in a broader sense. With

multinationality, the possibility of people from different cultures living together has been proportional to the cultural intelligence of individuals. Individuals who respect diversity and have a global understanding of culture adapt more positively to societies in different cultures. Such individuals respond to the behaviors of individuals in other cultures with more appropriate behaviors (Early & Mosakowski, 2004).

Individuals who were exposed to different cultures know better how to react to the events they encounter and how to find a solution in the face of any problem, depending on their cultural intelligence level. People with a high level of cultural intelligence get integrated easily into multicultural societies and have fewer problems. These people could also easily perceive the lifestyles, religious beliefs, customs and traditions of different societies.

#### Globalization and Global Citizen

In this period called the era of globalization, information and technology have brought people and societies closer to each other. An event that happened anywhere in the world in the past was only a problem in that region, but today it can become a problem of the whole world. One of the most striking examples that can be given to this is that Covid-19 has suddenly turned the whole world into a global village. The rate of spread of this epidemic disease is the most significant argument that can be given about how globalized the world is. In the era we live in, human beings are interacting more than ever before. With globalization, an economic, political and cultural unification has occurred in the world. The circulation of capital has increased in the world, the places have become closer, the world has shrunk and the borders in the world have been removed, in other words, the world has become a single socio-economic market (Kaçmazoğlu, 2002). Although the definitions related to globalization are different, it can be defined as follows with the perspective desired to be reached: Globalization is the social, economic and cultural convergence of people in the universe, the world becoming a small village by being free from borders, in short, the shrinking of the world and the emergence of the awareness of being perceived as a single place (Erdem, 2008). All these developments have put forward a need to raise a new type of citizen who can understand the world, overcome the problems that may arise and bring solutions to them, which led to the emergence of a global citizen.

The concept of citizenship has undergone significant changes over time. The emergence of multicultural societies has changed the meaning and context of the concept of citizenship with this aspect. The emergence of countries with a predominantly immigrant population such as Canada and the United States has moved the concept of citizenship away from the context of the nation-state. As a result of World Wars I and II, the concept of citizenship became synonymous with the concept of the nation-state. In the following processes, intense migrations, wars and economic problems in some countries caused a significant displacement of the population in the world. As a result of this change of place, very different cultures, ethnic structures, religious beliefs, traditions and customs have begun to live together. This has led to the formation of a global citizen of the world by getting over the political and legal limits of national citizenship.

Global citizenship is a sense of belonging to a wider community and common humanity. Global citizenship emphasizes political, economic, social, cultural interdependence and interdependence in a local, national and global context (UNESCO, 2014). According to Oxfam (2007), a non-governmental social organization, global citizens are those who fulfill their social responsibilities, see differences in society as an advantage, do not remain silent in the face of social inequalities, are sensitive, define themselves as a global citizen and know their responsibilities and rights. In particular, the concept of citizenship has gone beyond political borders and this has led to the formation of a global citizen identity.

The concept of citizenship, which took its place on a national line after World Wars I and II, separated from the concept of nationality with globalization. It is now seen that a citizenship model has emerged, not with political borders, but with social consciousness. In the new world order, citizenship has crossed political borders. However, in this respect, the global citizen does not have a

constitutional identity. A global citizen is a citizen whose identity is enriched with social responsibility, respect for differences, knowledge and skills on a global scale. Although the global citizen is free from national citizenship, he cares about national values and does not underestimate them. While the concept of global citizenship is expressed as the emergence of a common culture as a result of the convergence of world cultures, it is also defined as a way of enabling societies to see different aspects of each other (Keyman, Sarıbay, 2000). A global citizen is someone who respects and protects the earth and people. These people act with the understanding of social justice. Their main purpose is to make the world a more livable place for all people (Burman et al., 2013). Global citizens are those who ethnically remove ties of blood and dedicate themselves to global causes (Dower, 2000). Based on all these definitions, we can state that globalization has led to the emergence of a new human character. In this respect, Global citizens emerge as people who do not feel that they belong only to political borders or identities, who devote themselves to finding solutions to the problems of other people around the world, who strive and work for the world to become more reliable and livable and who devote themselves not only to the society they belong to but to the common good of the whole world.

While the coexistence of different cultures reveals globalization, cultural intelligence is an important factor for the harmonization of these cultures. Because being able to empathize with different cultures is possible with the type of cultural intelligence (İbiş, 2018). In today's world, we are in contact with people from different cultures, beliefs and ethnic origins as a result of the ease of going to different countries, international education, increasing job opportunities and forced migration. It is extremely important to know and understand different cultures in order to live together with these people in peace and tranquility. Cultural intelligence has a very important place on the basis of being sensitive to differences and behaving well. People with a high level of cultural intelligence and sensitivity could easily adapt to differences and could be more tolerant of different cultures. This would make it easier to be a global citizen in the globalizing world and would give citizenship a new meaning and dimension while enabling people to live together in harmony (Özdemir, 2019).

## Importance and Purpose of the Research

Due to the conflicts and ISIS, many people in the Middle East had to migrate from their own lands to other countries. Turkey is one of the countries that accept foreign people, especially refugees and asylum seekers from Middle Eastern countries such as Syria, Iraq, Iran and Lebanon. Turkey is also the transition point from the Middle East to Europe. Undoubtedly, such situations significantly affect the life situations, traditional values and basic cultural structures of Turkey. Well, are the people in Turkey, especially the Z-generation and intellectual university youth ready for this cultural interaction?

Studies on this subject were conducted in Turkey (Akgül, Kaptı, & Demir, 2015; Ercoşkun, 2015; Emin, 2016; Tosun, A., et al., 2018). revealed that refugee children face many integration problems after migration. One of them was not being able to continue their education due to various reasons. Besides, children who receive education in their mother tongue (Arabic) have problems with integration, cannot establish a dialogue with teachers, very few of them continue their education in public schools after the education they receive, early marriages of girls, and work to provide financial support to their families are among the problems that hinder education life and thus integration. These problems restrain children's emotional and mental development. This prevents them from being a global citizen integrated with the world due to their insufficient level of cultural intelligence.

With globalization, it is aimed to strengthen human relations and communications, make distances close and create a value-based world order (Özden & Erbay, 2018). In our age, different states contain and deal with very different ethnic groups with the globalization of the world. Both the desire of these groups to keep their own cultures alive and the problems they experience in learning about the different cultures they have just learned naturally lead to different problems (Ho, 2009).

Cultural intelligence emerges as a very important concept in today's global world, where scientists consider it as a different type of intelligence and claim that it includes all other types of intelligence after 7 different types of intelligence. Especially in the world, which has turned into a global village with the increase in transportation opportunities, the easy adaptation of people to the new regions they go to is discussed in relation to these cultural intelligence levels. In a society where globalization is intensifying, the functionality of the concept of cultural intelligence is important. Shokef and Erez (2008) argue that cultural intelligence might create a global identity in multicultural societies. Goh (2012), on the other hand, claimed that in order for the citizens of a country to think, take responsibility and act in a global context, they must act on the basis of global intelligence in multicultural education practices. In a society like Turkey, which receives intense immigration and where different cultures live together, it is thought that cultural intelligence would be a remarkable topic in multicultural education practices. Since higher education includes people from different cultures and ethnicities, investigating the cultural intelligence levels of students at this level would make an important contribution to the literature. As a result, within this study, both the cultural intelligence levels of the students will be determined and the relationship between cultural intelligence and global citizenship will be discussed.

# **METHOD**

This study is a correlational quantitative study. Correlational studies are studies in which the relationships between two or more variables are examined without intervening in any way (Büyüköztürk et al., 2011) The correlational research method offers the opportunity to explain the relationship between the variables and predict the results (Tekbıyık, 2014). The purpose of correlational studies is to understand the measurement values of two or more statistically related variables. The stages of correlational research are determining the research problem, selecting the sample, developing data collection tools, collecting data, analyzing and interpreting data. In this study, the correlational method was found suitable for the study, since the sample of the interaction between the cultural intelligence levels of the pre-service teachers and their perceptions of global citizenship was handled with a random method as much as possible (Çepni, 2012).

# **Study Group**

The study group of the research consisted of 336 pre-service teachers, 176 females and 160 males, who were selected by random sampling method from a state university in eastern Turkey, including the students who continue their pedagogical formation education. Likewise, the data of this study were obtained from pre-service teachers studying at the Faculty of Education in a state university in eastern Turkey, where the immigrant population is dense. This characteristic thus adds to the value of this study. Pre-service teachers voluntarily participated in the study and their ages ranged from 18 to 30.

## **Data Collection Instruments**

Cultural Intelligence Scale (CQS): The original instrument was developed by Ang et al. (2007) and adapted into Turkish by İlhan and Çetin (2014). The scale is 5-point Likert type and consists of 20 items and 4 sub-dimensions (metacognition, cognition, motivation and behavior). As a result of a similar scale criterion study, a correlation of .61 between the CQS and the Intercultural Sensitivity Scale and .44 between the Tromso Social Intelligence Scale was found. In the reliability study, the Cronbach's alpha internal consistency coefficient for the whole scale was found .85 and the test-retest reliability correlation coefficient was .81. The corrected item-total correlation coefficients ranged from .33 to .64.

Global Citizenship Scale (GCS): GCS was developed by Morais and Ogden (2011) and adapted to Turkish culture by Akın et al. (2014). As a result of confirmatory factor analysis, the fit index values of 30 items of the 3-dimensional (social responsibility, universal competence and universal civic commitment) model were found to be ( $\chi^2$ =562.22, sd=395, RMSEA=.038, NFI= .90,

CFI=.90, IFI=.91, SRMR=.066). The Cronbach Alpha internal consistency reliability coefficient of the scale was found to be .60, .69, and .86, respectively. The corrected item-total correlation coefficients ranged from .16 to .65.

# **Analysis**

The data obtained from the participants were analyzed through the SPSS, statistical analysis software. Independent samples t-test and one-way ANOVA were used to determine the levels of cultural intelligence and global citizenship according to demographic variables. Pearson product-moment correlation coefficient analysis was used to examine the relationships among the variables, and multiple regression analysis was used to determine the predictive coefficients between the variables. The significance level was taken as p < .01.

#### **FINDINGS**

Correlation analysis was conducted to examine the relationship between pre-service teachers' cultural intelligence scale and global citizenship scale scores. Before the analysis, the normal distribution of the scale scores was examined. Pearson correlation analysis was used because the scale scores showed normal distribution. The results were presented in Table 1.

Table 1. Examination of the relationship between pre-service teachers' cultural intelligence scale and global citizenship scale scores

-		Metacognition	Cognition	Motivation	Behavior
Clabal Civia Engagement	r	,614**	,646**	,534**	,540**
Global Civic Engagement	p	0,000	0,000	0,000	0,000
Clahal Commoton as	r	,528**	,548**	,610**	,718**
Global Competence	p	0,000	0,000	0,000	0,000
Coolal Dagmangibility	r	,629**	,601**	,584**	,562**
Social Responsibility	p	0,000	0,000	0,000	0,000

When Table 1 is examined, it is seen that there was a moderately positive statistically significant (respectively r = 0.614; 0.646; 0.534; 0.540; p<0.05) between the global civic engagement scores of teacher candidates and the scores of global intelligence metacognition, cognition, motivation and behavior dimensions. Accordingly, it seems that as the global civic engagement scale scores of pre-service teachers increase, their global intelligence scale scores increase. The correlation between the global competence dimension scores of teacher candidates and the global intelligence metacognition, cognition, and motivation dimension scores was at a moderately positive level (respectively r = 0.528; 0.548; 0.610; p<0.05) and a positive high level with the behavior dimension scores (r = 0.528; 0.610; p<0.05). 0.718) was found to be statistically significant. Accordingly, it can be interpreted that as the global competence dimension scores of pre-service teachers increase, their global intelligence scale scores increase. There was a positive and moderately statistically significant relationship (respectively r = 0.629; 0.601; 0.584; 0.562; p<0.05) between pre-service teachers' social responsibility dimension scores and global intelligence metacognition, cognition, motivation and behavior dimension scores. Accordingly, it can be said that as the social responsibility dimension scores of teacher candidates increase, their global intelligence scale scores increase. As a result, cultural intelligence was positively correlated with global citizenship.

Multiple regression analysis was conducted to determine to what extent the global competence dimension of the Global Citizenship Scale predicted the dimensions of global intelligence. The results were given in Table 2.

Table 2. Examination of the state of global intelligence predicting global competence

	Non-standardized Regression Coefficient	Standardized Regression Coefficient	T	p
Constant	4,480		2,276	,023
Metacognition	,337	,121	2,615	,009
Cognition	,241	,130	2,702	,007
Motivation	,313	,144	2,648	,008
Behavior	1,079	,498	10,457	,000

Dependent Variable: Global Competence

As can be seen in Table 2, the standardized path coefficient from the metacognitive dimension of global intelligence to global competence was 0.121; the standardized path coefficient from the cognition dimension of global intelligence to global competence was 0.130; the standardized path coefficient from the motivation dimension of global intelligence to global competence was 0.144; and the standardized path coefficient from the behavioral dimension of global intelligence to global competence was 0.498, and the path coefficients were statistically significant (p<0.05). It was determined that the global intelligence dimension with the highest standardized path coefficient was the behavior dimension. Therefore, it could be said that the behavioral dimension of cultural intelligence was the best predictor of global competence.

Unrelated samples t-test was used to examine the statistically significant difference between pre-service teachers' cultural intelligence and global citizenship levels according to gender, since the scale scores at the gender levels showed a normal distribution. The results were shown in Table 3.

Table 3. Examination of global intelligence and global citizenship levels of pre-service teachers by gender

	Gender	n	$ar{X}$	SS	sd	t	p
Metacognition	Female	176	15,67	4,03	334	1,172	0,242
	Male	160	16,20	4,30			
Cognition	Female	176	24,04	6,54	334	1.049	0.206
	Male	160	24,76	5,93	334	1,048	0,296
Motivation	Female	176	19,52	5,22	224	0.916	0,360
	Male	160	20,05	5,43	334	0,916	
D.I. '	Female	176	19,87	5,18	224	0.927	0,403
Behavior	Male	160	20,36	5,54	334	0,837	
CLI IC. : F	Female	176	51,27	13,07	224	1,614	0.100
Global Civic Engagement	Male	160	53,57	334	1,014	0,108	
Global Competence	Female	176	43,01	11,09	334	0,992	0,322
	Male	160	44,26	12,14	334	0,992	0,322
Social Responsibility	Female	176	24,58	6,12	224	1 440	0.140
	Male	160	25,58	6,49	334	1,448	0,149

Table 3 indicates that cultural intelligence scale scores (metacognition, cognition, motivation, behavior) and global citizenship scale scores (global civic engagement, global competence, social responsibility) of pre-service teachers were not statistically significant (p>0.05). That is, there was no statistically significant difference by gender in the cultural intelligence and global citizenship levels of pre-service teachers.

Since the scale scores at the gender levels showed a normal distribution, analysis of variance (ANOVA) was used to examine the statistically significant difference in the levels of cultural intelligence and global citizenship of pre-service teachers according to their age. The results were presented in Table 4.

Table 4. Examination of global intelligence and global citizenship levels of teacher candidates by age

Age		n	$\overline{X}$	SS	sd	F	p
Metacognition	18-20 years old	98	16,36	3,81			
	21-25 years old	161	16,10	4,39	(2, 333)	2,523	0,082
	26 yaş ve üstü	77	15,02	4,02			
	18-20 years old	98	24,70	6,77			
Cognition	21-25 years old	161	24,54	6,23	(2, 333)	0,683	0,506
	26 years and older	77	23,66	5,64			
	18-20 years old	98	20,25	4,89			
Motivation	21-25 years old	161	19,70	5,61	(2, 333)	0,673	0,511
	26 years and older	77	19,33	5,24			
	18-20 years old	98	20,44	4,98			
Behavior	21-25 years old	161	20,14	5,43	(2, 333)	0,515	0,598
	26 years and older	77	19,61	5,66			
Global Civic Engagement	18-20 years old	98	53,30	12,90			
	21-25 years old	161	51,85	13,45	(2, 333)	0,377	0,686
	26 years and older	77	52,24	12,63			
Global Competence	18-20 years old	98	43,54	12,75			
	21-25 years old	161	43,70	11,63	(2, 333)	0,010	0,990
	26 years and older	77	43,50	10,03			
Social Responsibility	18-20 years old	98	25,14	6,48			
	21-25 years old	161	24,94	6,12	(2, 333)	0,055	0,947
	26 years and older	77	25,20	6,56			

Table 4 shows that cultural intelligence scale scores (metacognition, cognition, motivation, behavior) and global citizenship scale scores (global civic engagement, global competence, social responsibility) of the pre-service teachers according to their ages did not show a statistically significant difference (p>0.05). That is, the cultural intelligence and global citizenship levels of teacher candidates did not differ statistically by their age.

# DISCUSSION AND CONCLUSION

The results obtained in the research pointed out that cultural intelligence and global citizenship are positively correlated. As cultural intelligence increases, global citizenship increases as well. Similarly, Yüksel and Ereş (2018) found that there is a positive relationship between the perception of global citizenship and cultural intelligence. Cultural intelligence and global citizenship have several important points in common. The first one of them is respect for differences. Both people with high cultural intelligence and people with high global citizenship attitudes have high levels of respect for differences. Respect for differences is an integral part of multicultural education (Sincer, Severiens, & Volman, 2019). Koçak and Özdemir (2015) found in their study on the attitudes of teacher candidates towards multicultural education that there is a significant, positive and moderate relationship between cultural intelligence and attitudes towards multicultural education. Şahin and Gürbüz (2012) found that cultural intelligence positively affects global (organizational) citizenship behavior in their research titled The Effect of Cultural Intelligence on Global Citizenship Behavior. A study was done by Gezer and Sahin (2017) on the relationship between attitude towards multicultural education and cultural intelligence demonstrated that the attitude towards multicultural education is in a positive and moderately significant relationship with the sub-dimensions of cultural intelligence, behavior, motivation and metacognition. Similarly, Ekici (2017) found that there is a positive relationship between pre-school teacher candidates' attitudes towards multicultural education and cultural intelligence. Rockstuhl and Ng (2008) determined that cultural intelligence increases the quality of multicultural education by positively affecting interpersonal trust. The second common point is intercultural sensitivity. In research on cultural intelligence, Özdemir (2019) revealed that cultural intelligence has a significant effect on the dimensions of intercultural sensitivity, responsibility in communication, self-confidence, enjoyment, and attention. The high level of cultural intelligence of individuals not only makes the person more sensitive to other cultures but also facilitates communication and adaptation. The third important common point is intercultural competence (Trede, Bowles, & Bridges, 2013). It is a normal situation that there is a relationship between cultural intelligence and global citizenship, which includes three important concepts such as respect for differences, intercultural sensitivity and intercultural competence. Consequently, the level of cultural intelligence provides an understanding of cultures and makes it easier for people to become world citizens (global citizens). The findings of the studies in the related literature supported this argument together with the current research.

The behavioral dimension of cultural intelligence is the best predictor of global competence. Tsai and Lawrence (2011) in their research on foreign students in Tavyan concluded that cultural intelligence positively affects intercultural harmony and that cultural intelligence increases intercultural communication. Şahin and Gürbüz (2012) revealed in their research that there is a significant and positive difference between cultural intelligence and global citizenship behavior, and as a result of this, individuals who operate in multicultural environments have a positive effect on their behavior towards different cultures. Ward and Fischer (2008) found that cultural intelligence has a positive effect on multicultural behavior and that individuals with cultural intelligence easily adapt to the multicultural environment. Amiri Moghimi and Kazemi (2010) found in their research on the behavior of people in different cultures in their work environment that there is a significant relationship between the performance of employees and the metacognitive, cognitive and motivational factors of cultural intelligence. Besides, in their study on the life satisfaction of cultural intelligence, Büyükbeşe and Yıldız (2016) discovered that students' metacognitive and motivational cultural intelligence positively affect their life satisfaction in a significant way. Koyuncu and Akdöl (2019) found in their study on cultural intelligence that there is a significant and positive relationship between metacognitive, motivational and behavioral cultural intelligence, and entrepreneurial orientation with the dimensions of risk-taking, innovation and proactivity. Templer et al. (2006) revealed that cultural intelligence is effective in three types of intercultural adaptation (general, work and interactional). In this respect, it coincides with the results of this research. Cultural intelligence is one of the important tools used to manage cultural differences. The level of cultural intelligence is directly proportional to the interaction and agreement levels of cultures. Individuals with cultural intelligence could easily understand the behaviors, gestures and mimics of individuals from different cultures. If a person could be able to change his or her body language, spoken language, expressions and behaviors when s/he encounters any person or people from different ethnic groups and identities, this means that s/he is using the behavioral component of cultural intelligence (Mercan, 2016a). In this respect, the behavioral dimension of cultural intelligence facilitates being a global citizen and increases adaptation. Therefore, the behavioral dimension of cultural intelligence is an essential factor for global citizenship.

Moreover, there was no statistically significant difference by gender in the cultural intelligence and global citizenship levels of teacher candidates. McMurray (2007) concluded in a study on University of California graduates that the gender variable did not make a significant difference in intercultural sensitivity. Lawrence (2011)'s research on the effects of cultural intelligence, self-efficacy and intercultural communication on the intercultural adaptation of international students in Taiwan revealed that there was no significant difference by gender variable. Likewise, in their study of preservice teachers, Kaya and Kaya (2012) determined that the perception of global citizenship did not create a significant difference in pre-service teachers by gender. Şahin and Yıldız (2016) also revealed in their research on world citizenship that the perception of citizenship does not make a significant difference by gender variable. Mercan (2016b) concluded in research on cultural intelligence in a multicultural environment that being a woman or a man does not affect cultural intelligence. Özdemir (2019) found that gender has no effect on cultural intelligence in general. According to the results of the study conducted by Spinthourakis et al. (2009) revealed that the intercultural sensitivity perception levels of university students did not make a significant difference by gender. Research conducted by Aksoy (2012) indicated that gender did not have a significant and positive effect on cultural intelligence. Hareket and Altınok's (2020) research on the intercultural attitudes of pre-service classroom teachers revealed that the intercultural sensitivity scores of teacher candidates do not differ significantly by gender variable. İnan (2017) concluded in a study on pre-service teachers that there is no statistically significant difference in the cultural intelligence scores of pre-service teachers by gender variable. In this respect, the findings in the literature were in line with the results of the current study. Again, similar results were found in similar studies on this subject (Eren, 2020; Günaydın, 2019). On the other hand, there were studies in the literature showing the opposite of these findings. For instance, Abaslı and Polat (2019) in their study on university students studying in Ankara found that the perception levels of cultural intelligence differed significantly in favor of male students by gender. On the other hand, Banos (2006) carried out a research on the intercultural sensitivity of young people and concluded that the age variable creates a significant difference in favor of female students. Although there is no statistical difference in general terms in these studies, there was a difference in favor of male or female students in sub-dimensions. Therefore, the argument in the majority of studies in the literature revealed that gender does not make a statistically significant and positive difference in cultural intelligence. The reason for this was that the male and female students included in the research have gone through similar educational processes, they were chosen from close age groups and mostly from the same regions, they had less interaction with different cultures, and their travels abroad were less. For this variable; therefore, it would be beneficial to conduct research in larger regions and on more study subjects.

In terms of the age variable, the cultural intelligence and global citizenship levels of preservice teachers were found not to be statistically significant by their age. In a study on teachers, Fretheim (2007) concluded that the age variable did not make a significant difference. Similarly, Banos (2006) concluded in a study on the intercultural sensitivity of young people that the age variable did not make a significant difference. McMurray (2007), in a study on University of California graduates, also concluded that the age variable did not make a significant difference in intercultural sensitivity. In their study on university students, Abaslı and Polat (2019) revealed that the intercultural sensitivity and cultural intelligence perception levels of students do not differ by age. In their study, Soltani and Keyvanara (2013) found that there was no statistically significant difference between the cultural intelligence perception levels of university students by age variable. In this respect, it was consistent with the results of the current research. There were also studies stating the opposite. For instance, in their study on teachers, Westrick and Yuen (2007) concluded that there is a positive and significant relationship between the age variable and sensitivity to different cultures. A study done by Spinthourakis et al. (2009) showed that the intercultural sensitivity perception levels of teacher candidates differ by age variable. For them, the reason for this would be related to the circle of friends the young people had. They found that people who have friends from different cultures had higher intercultural sensitivity than people who only have friends from their own culture. Üstün (2011) also reached findings that support these results. Üstün (2011) determined that pre-service teachers' sensitivity to different cultures differs statistically significantly, rather than the age variable, according to the environment they grew up in, the high school and the department they attended, whether they went abroad or not and whether they had friends from different cultures. The reason for the positive significant difference by age variable could be the experience of the teachers. That is, those with more professional experience were more sensitive than those with less professional experience. The results of the current study and the findings of the studies in the literature showed that the age variable does not lead to a significant difference. Therefore, a person's interest, relevance and sensitivity to a different culture could be related to how much he or she is in communication with that culture or cultures, rather than the age variable.

As a result, there was a positive relationship between cultural intelligence and multiculturalism. Pre-service teachers' cultural intelligence levels have a significant impact on shaping their process of becoming global citizens. Individuals with high cultural intelligence are advantageous in recognizing and understanding different cultures. Again, these people could solve the problems they may encounter more easily (Thomas and Inkson, 2005). People with high cultural intelligence could more easily guide and understand the people they work with. Raising the level of cultural intelligence and using it successfully could be extremely important for world citizenship, as it would create the harmony in intercultural relations (Early & Mosakowski, 2004). Multiculturalism means the art of managing differences. In this respect, high cultural intelligence is crucial in terms of keeping differences together in harmony. People who encounter a new culture have a great advantage if they

know what they would encounter in advance; because they could plan ahead of time how to treat people from different cultures and how to communicate easily with these people.

# **Implications**

In order to increase the notion of global citizenship in pre-service teachers, their tendencies to cultural intelligence should be supported. In particular, increasing the cultural intelligence levels of pre-service teachers would ensure that differences could be lived together peacefully and in harmony. For this purpose, organizations could be made to enable students to meet different cultures. Yet again, abroad educational opportunities could be increased in order to enable students to know and understand different cultures. Seeing and understanding different cultures abroad would make it easier for a person to become a world citizen. Additionally, trainings on cultural intelligence and global citizenship could be facilitated at universities. Although the university period is a late-stage for cultural intelligence and global citizenship awareness, it is significant today that these courses should be added at least as elective courses in all departments and branches. Since university students have completed their personality development to a large extent, it would be too late to provide them with cultural intelligence and global citizenship awareness. Considering the high number of refugees in Turkey, it is predicted that people in different cultures could cause big problems in society.

Therefore, it is of utmost importance that teachers graduating from Faculties of Education with a pedagogical formation should graduate with advanced professional and personal skills for the education of refugee students. For this, pre-service teachers need to be equipped with how to educate the children of refugees. For example, they should have the skills to implement such methods and techniques that are suitable for the modern educational approaches helping students unite, integrate and socialize more. It is also essential that teachers who will work in regions where immigration is intense should receive language training in order to overcome the problems they may experience in the language of refugees.

Particularly, the economic problems in the regions as a result of intense migration, the marriage of immigrant women with Turkish men, and increasing nationalism may cause a negative situation against immigrants. In order to solve all these problems and to keep these differences in harmony, training on cultural intelligence and global citizenship perceptions would become invaluable. Therefore, emphasis should be placed on critical values on respect for differences, empathy and cultural intelligence skills, especially in the context of personality traits. Consequently, in prospective research, further studies could be carried out by including different variables such as respect, empathy, emotional intelligence, etc. to the differences that affect global citizenship.

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