An Investigation of the cultural intelligence of pre-service music teachers in Turkish Universities[1]

Investigación sobre la inteligencia cultural de los futuros maestros de música en las universidades turcas

Pesquisa sobre a inteligência cultural de futuros professores de música em universidades

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Abstract

The values of a society constitute its culture; they are all the building blocks that can be transferred, renewed, and come from the past to the present. Turkey is a culturally rich and diverse country. In today's world, the concept of cultural intelligence, which is necessary for people to adapt in different and multicultural environments, is substantial. In this context, it is extremely important for music teachers to adapt to multicultural environments for their work. The purpose of this study is to investigate pre-service music teachers' cultural intelligence and determine if it differs from individual-to-individual dependent on some variables. A Descriptive analysis, Independent Group t-test, One-Way Analysis of Variance, Kruskal Wallis-H Test and a Pearson Correlation Coefficient were used. In this study, which was carried out with quantitative research, with 278 participants who were studying in seven regions of Turkey in the 2020-2021 academic year. It has been determined that the cultural intelligence levels are at a good level and the relations between them are positive. Cultural intelligence levels of participants do not differ significantly by the gender, age, university or parent's education status; solely, it was found statistically significant that metacognition and cognition sub-dimensions vary as the result of someone in the family being involved in music. As a result, it was seen that the cultural intelligence levels of the pre-service music teachers were good and generally did not differ according to demographic variables. The novelty of this study is that the framework has identified pre-service music teachers' cultural intelligence levels in Turkey. Furthermore, this study can be a point of reference to stakeholders and researchers on this music education axis. The findings of this study also serve to avert the education sector to the issues related to the implementations of teacher education in higher institutions.

Keywords: Cultural intelligence; pre-service music teachers; music education, multiculturalism; teacher education

Resumen

La cultura se conforma a partir de todos los valores de una sociedad; son los bloques de construcción que pueden transferirse, renovarse y trasladarse del pasado al presente. Turquía es un país complejo, rico y culturalmente diverso. En el mundo actual el concepto de inteligencia cultural, es necesario para que las personas se adapten a entornos diferentes y multiculturales, es esencial. En este contexto, es de suma importancia que los profesores de música lo adapten en entornos multiculturales para que su trabajo sea más eficiente. El propósito de este estudio es investigar la inteligencia cultural de los futuros profesores de música y determinar si difiere o no a partir de algunas variables propuestas. Se utilizaron análisis descriptivos, prueba t de grupo independiente, análisis de varianza de una vía, prueba Kruskal Wallis-H, coeficiente de correlación de Pearson. En este análisis, que se llevó a cabo desde una investigación cuantitativa, con 278 participantes que estudiaban en siete regiones diferentes de Turquía en el año académico 2020-2021. Se ha determinado que los niveles de inteligencia cultural se encuentran en un nivel adecuado y que las relaciones entre ellos son positivas. Los niveles de inteligencia cultural de los participantes no difieren significativamente según el género, la edad, la universidad o el nivel educativo de los padres. Sólo se encontró, como hallazgo estadísticamente significativo, los casos en que en la familia había alguien involucrado con la música en las subdimensiones de metacognición y cognición. Como resultado se observó que los niveles de inteligencia cultural de los futuros profesores de música eran óptimos y, en general, no diferían de acuerdo a las variables demográficas. La novedad del presente estudio es que ha identificado los niveles de inteligencia cultural de los futuros profesores de música en Turquía. Además, este estudio puede ser un punto de referencia para los actores e investigadores en esta esfera de la educación musical. Los hallazgos de este estudio sirven también para prever el sector de la educación sobre los problemas relacionados con las directrices de las instituciones superiores de formación de docentes.

Palabras clave: inteligencia cultural; futuros profesores de música; educación musical; multiculturalismo; formación de profesores

Resumo

A cultura constitui todos os valores de uma sociedade; são todos os blocos de construção que podem ser transferidos, renovados e vir do passado para o presente. A Turquia é um país diversificado, rico e culturalmente diverso. No mundo de hoje, o conceito de inteligência cultural, necessário para que as pessoas se adaptem em ambientes diferentes e multiculturais, é substancial. Nesse contexto, é de extrema importância que os professores de música o adaptem em ambientes multiculturais para seu trabalho eficiente. O objetivo deste estudo é investigar a inteligência cultural de professores de música em formação e determiná-la por algumas variáveis se diferem ou não. Utilizou-se análise descritiva, teste t de grupo independente, análise de variância unidirecional, teste Kruskal Wallis-H, coeficiente de correlação de Pearson. Neste estudo, que foi realizado com pesquisa quantitativa, com 278 participantes que estudavam em sete regiões diferentes da Turquia no ano acadêmico de 2020-2021. Foi determinado que os níveis de inteligência cultural estão em um bom nível e as relações entre eles são positivas. Os níveis de inteligência cultural dos participantes não diferem significativamente por sexo, idade, universidade ou status educacional dos pais. Apenas foi encontrado estatisticamente significativo se havia alguém envolvido com música na família nas subdimensões metacognição e cognição. Como resultado, verificou-se que os níveis de inteligência cultural dos professores de música em formação eram bons e geralmente não diferiram de acordo com as variáveis demográficas. A novidade deste estudo é que a estrutura identificou os níveis de inteligência cultural do professor de música na Turquia. Além disso, este estudo pode ser um ponto de referência para interessados e pesquisadores neste eixo de educação musical. Os resultados deste estudo também servem para antecipar o setor de educação sobre as questões relacionadas às implementações de instituições superiores de formação de professores.

Palavras-chave: Inteligência cultural; professores de música em formação; educação musical; multiculturalismo; formação de professores

Introduction

Being defined as "intelligent" not only gives positive feelings, but also encourages self-esteem and a sense of worth. Defining these two concepts "intelligence" and "what is intelligent?" has been the focus of theories, definitions and philosophies for a long time. One way to understand intelligence is to define what intelligence is. We know that many scientists work on intelligence and make many different definitions. Just as there is no word that defines intelligence exactly, there are many different definitions for it. The concept of intelligence has been a hotly debated topic in society and psychology for years. Some psychologists have tried to isolate pure intelligence by taking into account all personality and motivational factors (Sternberg & Jensen, 1992; Jensen, 1969).

Others view motivation as part of intelligence and optimal intellectual functioning. An example is Wechsler (1958), who designed and developed one of many IQ tests. In this respect, it differs across cultures. Unlike Americans, Asian cultures see effort as the most important and integral element of intelligence (Stevenson et. al, 1990). Cocodia (2014) observes that culture and intelligence are intertwined, while

Berry & Ward (2006, p.69) argue that "intelligence is a cultural product". The Beginning of Cultural Intelligence, as one of the first constructs of the Intercultural Competence movement; it has been defined by Hammer, Bennett and Wiseman (2003) as the ability to think and act in appropriate intercultural ways. More specifically, it is the ability to utilize all knowledge, skills and personal characteristics to work well with people from different national and cultural backgrounds at home or abroad (Johnson, Lenartowicz, Apud, 2006). Cultural intelligence explains that some individuals are able to adapt to different cultural contexts more efficiently than others. Basically, the cultural intelligence structure was developed based on previous intelligence theories (Sternberg & Detterman, 1986). It is a theoretical extension of existing concepts and models based on the theory of Multiple Intelligences (Gardner, 1987).

Looking at the literature on the concept of cultural intelligence, this concept was first discussed in the article "Cultural Intelligence" by P. Christopher Earley and Elaine Mosakowski in 2003 (Earley & Mosakowski, 2004, p.1). The concept of cultural intelligence was first introduced by London Business University researchers Earley and Ang., drawing on previous theoretical work on measures of intelligence such as cognitive intelligence, social intelligence, and emotional intelligence. Earley suggested that an individual's capacity to adapt to unfamiliar cultural environments relies on three dominant aspects. It refers to the established form of intelligence in which intelligent adaptive behaviors are culturally tied to the values and beliefs of a particular society or culture. It is the ability to adapt appropriately in new cultural environments, which are often different from one's own cultural context (Earley & Ang, 2003, p.26-27).

Cultural intelligence theory aims to explain why some people adapt to different cultures more easily than others (Verghese & D'netto, 2011). In another saying; The definition of cultural intelligence is defined as the desire to understand a culture and learn more about that culture, to be talented and flexible, to gradually become more sympathetic to the culture, to shape the behavior of being more sensitive and appropriate-reasonable when interacting with others (Thomas & Inkson 2005, p.7).

Metacognition

Metacognition refers to cultural awareness during intercultural interactions. Metacognitive CQ is the individual's conscious cultural awareness level during intercultural interactions (Rockstuhl et. al., 2011, p.827). It represents the mental processes that individuals use to acquire and understand cultural knowledge, including awareness, control, and individual thought processes (Flavell, 1979). As an example of metacognitive exercise, Sternberg (1985) identified several features of basic mental

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processes. For example, recognizing the existence of a problem, defining the nature of the problem and finding and evaluating solutions to solve the problem. Individuals with high metacognitive cultural intelligence adjust mental processes in their interactions by being aware of the cultural preferences of others (Brislin, Worthley & Macnab, 2006; Triandis, 2006).

Cognition

Cognition reflects the knowledge of norms, practices and traditions in different cultures as a result of an individual's personal experience or education (Ang et. al, 2007); for example, musical hearing is shaped by environmental factors (Karaelma & Demirel, 2021). Cognitive cultural intelligence reflects an individual's perceptions of cultural differences and similarities. At the same time, it represents the person's general knowledge and cognitive and mental plans about other cultures (Moynihan, Peterson & Earley, 2006, p.311). The cognitive aspect of cultural intelligence includes recognizing legal and economic systems, norms of social interaction, religious beliefs, and the language of other cultures.

Motivation

Motivation is the ability to direct and focus attention and energy towards learning and working in culturally different situations (Rockstuhl, et. al, 2011, p.827). The motivational sub-dimension reflects the ability to direct attention and energy to learning and functioning in situations characterized by cultural differences (Ang et. al, 2007, p.338); many studies in foreign literature have examined the role of motivation in cross-cultural settings. In other words, cultural motivation, often discussed as a component of cultural intelligence, is related to an individual's willingness and self-efficacy to actively adapt to a new culture (Earley & Mosakowski, 2004). It has been discovered that the relationship between cultural motivation and cultural adaptation support each other (Ang et. al, 2007). According to the authors, cultural motivation provides goal-oriented behavior that helps individuals in stressful situations and allows individuals to better cope and adapt during the task.

Behaviour

It is known that cultural intelligence increases an individual's ability to connect with others outside his or her own culture (Ang, Et., Al, 2007; Earley & Ang, 2003). The

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behavioral dimension focuses on what people do, not what they think or feel, in order for effective interaction to occur. Individuals must recognize cultural clues, acquire cultural knowledge, understand the cultural effects of their interactions, and act effectively in other cultures (Crowne, 2009, p.151). Thus, the behavioral dimension of cultural intelligence is an individual's ability to adapt verbal and nonverbal behavior to be appropriate for various cultures.

This study has investigated these problems:

1. What are pre-service music teacher's CQ levels?
2. Do CQ levels of pre-service music teachers vary with gender, age, university, family interest for music, parent's education status?
3. Are there relationships among the CQ sub-dimensions?

Methodology

Research Design

In the quantitative research method used in this study, the convenience sampling technique was chosen. According to Fraenkel, Wallen and Hyun (2011), accessible groups are selected for research in the convenient sampling technique. In this sampling method, the researcher includes voluntary participants who want to participate in the research. It is also called the voluntary sampling method. It is a non-random sampling because the participants participate in line with their own preferences and wishes (Christensen, Johnson & Turner, 2015).

The aim of this research is to examine whether there is a significant difference in the sub-dimensions of cultural intelligence of pre-service music teachers according to socio-demographic variables as well as their CQ level.

Conclusion

Data Collection Tools

Demogrpahic information form: This section was prepared by the researcher; it consists of independent variables that include students' demographic characteristics.

Cultural Intelligence Scale: The scale was developed by Ang et al. (2007) was adapted to Turkish culture by İlhan and Çetin (2014) in order to measure the cultural

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intelligence of university students. There are four dimensions. In the 20-item, 5-point Likert scale: metacognition (items 1, 2, 3, 4), cognition (items 5, 6, 7, 8, 9, 10), motivation (items 11, 12, 13, 14) and behavior (items 16, 17, 18, 19, 20). There is no reverse item in the scale. Answered questions are scored between 1 and 5, and the total score is obtained by summing the scores. A score can be obtained for each sub-dimension from the scale, as well as a total score for cultural intelligence. High scores indicate a high level of cultural intelligence. In this study, an evaluation was made on the total score of cultural intelligence. In the adaptation of the scale to Turkish culture, the Cronbach's alpha reliability coefficient of the whole was .85, while the reliability coefficients of the sub-dimensions were calculated as .77, .79, .75 and .71, respectively (İlhan & Çetin, 2014). Within the scope of this research, the Cronbach's alpha internal consistency reliability coefficient of the scale was calculated as .84, and it can be said that its reliability is high.

Data Analysis

The SPSS 22.0 program was used to find the missing and extreme values of the data, descriptive statistics to determine whether the data provides a normality assumption, and kurtosis and skewness values were examined. For the analysis of the data, a descriptive analysis, independent group t-test, one-way analysis of variance and Kruskal Wallis-H test were performed and the Pearson correlation coefficient calculated. Benferroni, one of the post hoc tests, was used to determine the source of the difference between the groups.

Population And Sampling

Table 1. Demographic variables of participants

Variables	Group	*f*	%
Gender	Female	178	64
	Male	100	36
Age	18-21	126	45.3
	21-24	110	39.6
	24-27	22	7.9
	27+	20	7.2
University	Harran (Southeastern)	38	13.7
	Van Yüzüncü Yıl (Eastern)	31	11.2
	Necmettin Erbakan (Central Anatolia)	37	13.3

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Variables	Group	f	%
University	Balıkesir (Marmara)	20	7.2
	Bolu Abant İzzet Baysal (Black sea)	43	15.5
	Pamukkale (Aegaen)	41	14.7
	Marmara (Marmara)	51	18.3
	Atatürk (Eastern)	17	6.1
Intreseted in music of family	Yes	100	36.0
	No	178	64.0
Mother's education status	Illiterate	27	9.7
	Primary	91	32.7
	Secondary	44	15.8
	High school	62	22.3
	BA	51	18.3
	MA	3	1.1
Father's education status	Illiterate	8	2.9
	Primary	66	23.7
	Secondary	55	19.8
	High School	85	30.6
	BA	56	20.1
	MA	8	2.9

Source: own work

Findings

According to the results of the analysis performed, the scores of the students in the sample group observed in the metacognition sub-dimension ranged from 1 to 5 ($\bar{X}$=3.74, SD=0.95). The scores observed in the cognition sub-dimension ranged from 1 to 5 ($\bar{X}$=3.21, SD=0.83). It was found that the scores observed in the motivation sub-dimension ranged from 1 to 5 ($\bar{X}$=3.72, SD=0.95) and the scores observed in the behavior sub-dimension ranged between 1 and 5 ($\bar{X}$=3.63, SD=0.94).

Table 2. Descriptive analysis of CQ by pre-service music teachers

Sub-dimensions	$X_{min.}$	$X_{max.}$	$\bar{X}$	$X_{sd.}$	$X_{skewness}$	$X_{kurtosis}$
Metacognition	1	5	3.74	0.95	-1.12	1.33
Cognition	1	5	3.21	0.83	-0.42	0.09
Motivation	1	5	3.73	0.95	-1.06	0.94
Behavior	1	5	3.63	0.94	-0.69	0.30

Source: own work

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Table 3. CQ According to gender T-test

Sub-dimensions	Group	$\bar{X}$	$X_{sd.}$	t	df	p
Metacognition	Female	3.74	0.97	-0.07	276	0.949
	Male	3.75	0.90			
Cognition	Female	3.24	0.85	0.82	276	0.415
	Male	3.16	0.80			
Motivation	Female	3.69	0.98	-1.10	276	0.271
	Male	3.82	0.91			
Behaviour	Female	3.63	0.95	0.14	276	0.888
	Male	3.62	0.93			

Source: own work

When the findings in the table are examined, it is seen that the distribution of the scores of the CQ sub-dimensions does not cause a statistically significant difference compared to male and female students ($p>0.05$).

The results of the Kruskal Wallis analysis, which was carried out to determine the statistical difference between the age groups of the participants in the mean scores of the CQ sub-dimensions, are given in the table below.

Tablo 4. CQ Sub-Dimension Scores Differ According to Age

Sub-dimensions	Age	n	Mean Rank	χ^2	df	p
Metacognition	18-21	126	132.06	4.00	3	0.262
	21-24	110	142.74			
	24-27	22	167.30			
	27 +	20	138.00			
Cognition	18-21	126	139.94	2.87	3	0.412
	21-24	110	133.71			
	24-27	22	165.36			
	27 +	20	140.10			
Motivation	18-21	126	131.90	6.59	3	0.086
	21-24	110	143.33			
	24-27	22	176.23			
	27 +	20	125.93			
Behaviour	18-21	126	133.70	4.17	3	0.243
	21-24	110	137.87			
	24-27	22	168.52			
	27 +	20	153.08			

Source: own work

When the findings in the table were examined, it was concluded that the differences observed in the mean scores were not statistically significant ($p<0.05$).

Kruskal Wallis tests were carried out to examine whether the mean scores obtained by the participants for the sub-dimensions of CQ differed significantly among the subgroups according to the variable of the university where they studied. The obtained results are given in the table below.

Table 5. CQ Sub-Dimension Scores Differ According to the Variable of the University

Sub-dimensions	University	n	Mean Rank	χ^2	df	p
Metacognition	Harran	38	127.66	14.29	7	0.046*
	Van Yüzüncü Yıl	31	115.31			
	Necmettin Erbakan	37	147.59			
	Balıkesir	20	144.48			
	Bolu Abant İzzet Baysal	43	170.73			
	Pamukkale	41	127.23			
	Marmara	51	130.22			
	Atatürk Üniversitesi	17	165.06			
Cognition	Harran	38	123.34	8.556	7	0.286
	Van Yüzüncü Yıl	31	124.94			
	Necmettin Erbakan	37	143.39			
	Balıkesir	20	174.73			
	Bolu Abant İzzet Baysal	43	152.26			
	Pamukkale	41	143.07			
	Marmara	51	129.16			
	Atatürk Üniversitesi	17	142.41			
Motivation	Harran	38	150.12	6.452	7	0.488
	Van Yüzüncü Yıl	31	134.84			
	Necmettin Erbakan	37	114.86			
	Balıkesir	20	155.13			
	Bolu Abant İzzet Baysal	43	145.35			
	Pamukkale	41	150.67			
	Marmara	51	132.50			
	Atatürk Üniversitesi	17	138.76			
Behaviour	Harran	38	155.95	8.406	7	0.298
	Van Yüzüncü Yıl	31	130.81			
	Necmettin Erbakan	37	119.04			
	Balıkesir	20	148.35			
	Bolu Abant İzzet Baysal	43	151.65			

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Sub-dimensions	University	n	Mean Rank	χ^2	df	p
Behaviour	Pamukkale	41	140.34			
	Marmara	51	125.70			
	Atatürk Üniversitesi	17	161.35			

*p<0.05

Source: own work

When the table is examined, it is understood that the only sub-dimension with significant differentiation is metacognition (p<0.05). Dunn's test with Bonferroni correction was used to examine which university students caused this observed differentiation. The findings obtained from this test showed that the observed differentiations were not due to the differentiation between a particular university couple (p>0.05).

The table below shows the results of the Kruskal Wallis test, which was carried out to examine how the mean scores obtained from each of the cultural intelligence sub-dimensions differ according to the education level of their mothers.

Table 6. The Results of Kruskal Wallis Test, used to Determine Whether the CQ Sub-Dimension Scores Differ According to the Mother Education Status Variable

Sub-dimension	Mother education level	n	Mean Rank	χ^2	df	p
Metacognition	Illiterate	27	131.54	4.37	5	0.498
	Primary	91	142.05			
	Secondary	44	126.25			
	High school	62	145.65			
	BA	51	146.88			
	MA	3	75.33			
Cognition	Illiterate	27	127.04	3.01	5	0.699
	İlkokul	91	134.38			
	Secondary	44	143.05			
	High school	62	139.28			
	BA	51	149.60			
	MA	3	187.83			
Motivation	Illiterate	27	152.78	6.40	5	0.269
	Primary	91	136.66			
	Secondary	44	137.55			
	High school	62	124.02			
	BA	51	154.92			
	MA	3	192.50			

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Sub-dimension	Mother education level	n	Mean Rank	χ^2	df	p
Behavior	Illiterate	27	140.83	3.87	5	0.569
	Primary	91	141.08			
	Secondary	44	153.22			
	High school	62	124.94			
	BA	51	139.96			
	MA	3	171.50			

Source: own work

According to table, CQ mean ranks of participant's mothers education do not differ significantly (p>0.05).

Kruskal Wallis tests was carried out so as to examine whether the mean rank of student's CQ sub-dimensions differed significantly according to their father's education levels. The findings obtained from these analyses are given in the following table.

Table 7. The Results of Kruskal Wallis Test, used to Determine Whether the CQ Sub-Dimension Scores Differ According to the Father Education Status Variable

Sub-dimensions	Father's education status	n	Mean Rank	χ^2	df	p
Metacognition	Illiterate	8	112.63	8.03	5	0.155
	Primary	66	138.43			
	Secondary	55	126.95			
	High school	85	147.44			
	BA	56	152.29			
	MA	8	87.63			
Cognition	Illiterate	8	143.44	7.31	5	0.199
	Primary	66	142.41			
	Secondary	55	118.15			
	High school	85	140.01			
	BA	56	157.99			
	MA	8	123.50			
Motivation	Illiterate	8	165.81	7.11	5	0.213
	Primary	66	122.50			
	Secondary	55	134.39			
	High school	85	143.15			
	BA	56	157.03			
	MA	8	127.13			

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Sub-dimensions	Father's education status	n	Mean Rank	χ^2	df	p
Behaviour	Illiterate	8	159.44	2.10	5	0.836
	Primary	66	134.11			
	Secondary	55	138.72			
	High school	85	138.74			
	BA	56	148.14			
	MA	8	116.94			

Source: own work

The findings show that the mean scores observed for the sub-dimensions of CQ do not cause a statistically significant difference according to the education level of the fathers.

Independent groups t-tests were conducted to examine whether the mean scores of the CQ sub-dimensions differed statistically according to the variable of having someone interested in music in the family. The obtained results are given in the table below.

Table 8. Interested in music of participant's families

Sub-dimensions	Group	$\bar{X}$	$X_{sd.}$	t	df	p
Metacognition	Yes	3.93	0.92	2.47	276	0.014*
	No	3.64	0.94			
Cognition	Yes	3.38	0.79	2.58	276	0.011*
	No	3.11	0.84			
Motivation	Yes	3.79	0.95	0.79	276	0.432
	No	3.70	0.96			
Behaviour	Yes	3.65	0.91	0.26	276	0.797
	No	3.62	0.96			

Source: own work

It was concluded that the differences observed according to whether there is someone who is interested in music in the family are statistically significant ($p<0.05$) for the metacognition and cognition sub-dimensions, and the average score is higher in favor of students who have a family dealing with music.

Table 9. Pearson Correlation Coefficients Calculated Between CQ Subdimensions

	Sub-dimensions	1	2	3	4
1	Metacognition		0.545**	0.604**	0.530**
2	Cognition			0.594**	0.546**
3	Motivation				0.723**
4	Behavior				

**p<0.01

Source: own work

The values in the table were examined and it was seen that the relations among them were positive and significant for all of the sub-dimension pairs.

Discussion

The obtaining of cultural intelligence is not de rigour or a completed process. Individuals not only know various cultures but they also participate in culture actively. The acquisition of cultural intelligence is not a prescribed or defined process. It is a non-consecutive learning process through continuing education and experience, enabling one to not only know different cultures, but also to develop one's ability to understand these cultures- along with the individual's ability to meet the needs of different environments. Understanding other cultures allows individuals to anticipate their needs or take necessary action, recognize minute cultural cues, and facilitate communication, negotiation and resolution.

In the study, when the cultural intelligence sub-dimension score distributions of the pre-service music teachers by diverse variables were examined. According to gender, it was seen that there was no statistically significant difference between male and female students. In support of the finding, Demir (2015) examined it according to the gender variable in his study; it has been determined that there is no significant difference in the cultural intelligence levels of male and female students. Supporting the same findings, in another study conducted with teachers (Kozikoğlu & Tosun, 2020), it was found that cultural intelligence levels did not show a significant difference according to gender. There are also results supporting this finding in other studies (Aksoy, 2012; Mercan, 2016; Nıkoopour & Esfandiarı, 2017). Based on this, in general, regardless of gender; they understand their own culture well and interact well with other cultures; it can be said that they are at a good level in terms of metacognitive, cognitive, behavioral and motivational sub-dimensions. Looking at the literature, it was concluded that in some studies conducted with teachers, the mean scores of

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cultural intelligence of male teachers differed significantly in favor of males compared to female teachers (Uğur, 2019; Abaslı & Polat, 2018; Doğutaş, 2015; Köse, 2016). In another study conducted with pre-service physical education teachers (Kartal, 2019), it was found to be in favor of men on the basis of cognitive and behavioral sub-dimensions according to the gender variable. Considering the cognitive dimension of men, it can be inferred that they know their own culture better and interact better with other cultures.

Likewise, in the behavioral dimension, it can be said that their ability to behave reasonably in these cultural environments is good. It can be deduced that this situation may be due to the social and sociological structure. Raising women more conservative may have such a result under regional, environmental and family conditions. In our study, it may be that the sub-dimensions of cultural intelligence in girls and boys do not differ due to the different structure of music teacher candidates compared to other professions. In a study conducted with social studies teacher candidates (Özer Koçak, 2020), significant differences were found according to gender. According to this result, it has been observed that female teacher candidates have higher cultural intelligence than males.

It is planned to increase the research on the reasons for the differences according to gender. Looking at the foreign literature, in the study conducted by Soltani & Keyvanara (2013), it was determined that the cultural intelligence levels of Iranian and non-Iranian students did not differ significantly. It is thought that university environments, the place and climate where they live or spend time in, have an effect on adapting to different cultures or not experiencing any conflict. It can be said that people living together develop the feelings of accepting, respecting and understanding each other.

Cultural intelligence sub-dimensions of pre-service music teachers do not differ according to age. In another study (Konate, 2018, p.19-23) that supports the finding of the research, no significant difference was found between all sub-dimensions of cultural intelligence and age. On the other hand, Koçak & Özdemir (2015) related to the cultural intelligence and multicultural attitudes of teacher candidates; It has been revealed that the common effect of gender and settlement creates a significant difference on attitude scores towards multicultural education. Looking at the foreign literature, the study of Soltani and Keyvanara (2013) also supports this finding.

Ekinci (2019), on the other hand, in his study on the cultural intelligence levels and multicultural competence perceptions of teachers working in secondary education institutions, concluded that there are significant differences between cultural intelligence level and marital status. According to the result, single teachers have a

higher average score than married teachers. According to this result, it may mean that they are capable of adapting to new cultural situations, regulating and adjusting their mental processes, having sufficient motivation and displaying appropriate behaviors during interaction against differences and diversity.

According to the university where the pre-service music teachers study, it is seen that the only sub-dimension that differs significantly from the sub-dimensions of cultural intelligence is metacognition. When examining the differences between in which university students were, this observed differentiation was observed. It was seen that the differences did not arise from the differentiation between a certain university couple. In the study conducted by Ekici (2017), it was found that the cultural intelligence levels of teachers do not show a significant difference in terms of the region they live in. Studies can be increased according to the university variable.

Petrović (2014) reached some conclusions about the level of cultural intelligence and its predictors among teachers in Serbia. As predictors of the high level of cultural intelligence of teachers, intercultural communication identified experiences in multicultural classroom environments as cultural learning and communication from other cultures. According to Petrovic, the teacher education curriculum should include and encourage certain factors:

- Intercultural interaction and openness to learning,
- Recognizing and using multiculturalism and cultural diversity as a learning resource or tool,
- Presenting mutual respect in order to increase the cultural intelligence of future teachers.

In the findings obtained, it was concluded that the mean rank of CQ scores did not cause a significant difference according to the education level of both parents and students. According to this, it can be inferred that the sub-dimension of cultural intelligence is not affected according to the education level of the parents; on the other hand, according to the variable of the CQ sub-dimension mean score, having someone interested in music in the family does affect cultural intelligence. When the findings were examined, it was seen that the differences observed according to whether there was someone interested in music in the family were statistically significant for metacognition and cognition sub-dimensions. It has been concluded that the average score is higher in favor of students who have a family member dealing with music. It can be concluded that the presence of music teachers in the family can affect cultural intelligences on metacognition and cognition dimensions. In other research,

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Oolders, Chernyshenko and Stark (2008) revealed that personal characteristics, such as being open to experience, intellectual competence, practical intelligence, curiosity, aesthetics, tolerance and depth, have a significant and positive relationship with all sub-dimensions of cultural intelligence. On the other hand, there are studies showing that studying in different countries and traveling to different countries also affect and increase cultural intelligence (Crowne, 2008; Lee & Sukuco, 2010).

Consequently, it can be said that the cultural intelligence levels of the participants are quite high. Last of all, cultural intelligence is a substantial notion in a renewed world, so as to work efficently in the context of multicultural environments with differences and variety. Taking into account Turkey's society structure by the regions and ethnic factors, ultımately, it is salient. Differences are not only national but also international. The unifying power of music must be used reasonably by all music teachers, therefore, attention should be drawn to cultural intelligence through institutions. Training programs on the development of cultural intelligence can be made so as to create efficient and successful teachers.

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