

An Examination of Correlation between Cultural Intelligence Level and Aggression

 AYSUN DOĞUTAŞ^a

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Abstract: This study aimed to determine if there is any correlation between cultural intelligence and aggression levels of teacher candidates studying at a university in Turkey. Participants of the study were 214 teacher candidates graduated and enrolled pedagogical formation classes on 2016-2017 academic years. 146 (%71,9) were women and 57 (% 28,1) were men of the study group. Both the Cultural Intelligence Scale (CQS) and the Buss-Perry Aggression Scale (BPAS) were applied together. Results of frequencies showed that motivation subdimension of cultural intelligence is the highest on Turkish teacher candidates, while metacognitive subdimension is the lowest. According to the Spearman's correlation results, there is a significant association between the total intelligence level and total aggression level which was an expected result.

Keywords: Cultural intelligence, aggression, aggression level, teacher candidates, pedagogy.

^a Pamukkale Üniversitesi, Eğitim Fakültesi, Bölümü
adogutas@pau.edu.tr

Kültürel Zeka Seviyesi ve Saldırıcılık Arasındaki Korelasyonun İncelenmesi

Öz: Bu çalışma, Türkiye’deki bir üniversitede okuyan öğretmen adaylarının kültürel zeka ve saldırganlık seviyeleri arasında ilişki olup olmadığını belirlemeyi amaçlamıştır. Çalışmanın örneklemini mezun ve 2016-2017 akademik yılında pedagojik formasyon programına devam eden 214 öğretmen adayı oluşturmaktadır. Çalışma grubunun 146 (%71,9)sı kadın ve 57 (%28,1) si erkektir. Kültürel Zeka Ölçeđi (CIS) ve Buss-Perry Saldırıcılık Ölçeđi (BPAS) birlikte uygulanmıştır. Frekans sonuçları, Türk öğretmen adaylarının kültürel zeka seviyesinin davranış alt boyutunun en yüksek olduđu aynı zamanda üstbilis altboyutunun ise en düşük olduğunu göstermiştir. Spearman’ın korelasyon sonuçlarına göre toplam kültürel zeka seviyesi ile toplam saldırganlık seviyesi arasında beklenen bir sonuç olarak anlamlı bir ilişki vardır.

Anahtar Kelimeler: Kültürel zeka, saldırganlık, saldırganlık seviyesi, öğretmen adayları, pedagoji.

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Introduction

As a result of globalization, going beyond national borders people started to live in groups in which there are people from different ethnic backgrounds, cultures, and religions. This makes groups multiple. This situation resulted in new obstacles for people to overcome new needs to manage cultural differences effectively, and motivate and affect people who have cultural differences. To manage cultural differences, there are many personal strategies. The most important strategy on this issue is cultural intelligence (Early & Ang 2003; Early & Mosaowski 2004; Ang & Van Dyne 2008; Yeşil, 2009). Nowadays, cultural intelligence has been an important concept at management and organizational psychology. However, the importance of cultural intelligence hasn't been noticed yet.

It can be said that cultural intelligence, success of person on intercultural encountering, is a determinant of conformity among individuals. Since disconformity resulted in anger and aggression, low cultural intelligence can incline aggression. This study aimed to find out if there is any relation between aggression and cultural intelligence.

As well as society, in educational organizations there are students from different cultures, backgrounds and religions. To manage these differences, the most important role falls to teachers. They have to manage cultural differences effectively and motivate all students to get along with each other well without conflict. If teachers or students feel discomfort, they can get angry and be aggressive. Teachers should have high level of cultural intelligence so that they can manage conformity among students. Therefore; there are three hypothesis of the study as follows;

1. There is a strong relation between cultural intelligence and aggression.
2. Teachers' cultural intelligence level is important since they face with students from diverse cultures.

3. There is a relation between teachers' cultural intelligence level and their sociodemographics.

Theoretical Framework

Due to globalization, people from different cultures are studying, working and living in same environment. Some people are doing well with others while some people are having problems to get along with others. This caused a new question as why some people are doing well while others cannot. Cultural intelligence is emerged due to this situation. Cultural intelligence is an ability to be effective in an environment with cultural variety. Ang and Early defined cultural intelligence and did some researchers about it. "Cultural Intelligence is defined as an individual's capability of function and manage effectively in culturally diverse settings" (Ang & Van Dyne 2008: 3). In another study cultural intelligence defined as a person's understanding, consideration and interpretation of movement, behavior, volume, mimic and emphasis as other people who are in same culture with that person (Earley & Mosakowski 2004, 139). Cultural intelligence is not constant as cognitive intelligence; but it is improvable as emotional intelligence (Mercan, 2016, 3). Cultural intelligence is a multidimensional concept and has four sub dimensions according to Early and Ang (2003). These are metacognitive, cognitive, motivational and behavioral dimensions.

None of the subjects interested in various human activities has been caused deeper concern than human aggression (Bandura, 1973). Especially in globalized world, in which people from different cultures are together, people should be in relations with others. However, this relation sometimes includes aggression as a nature of human being. It is hard to get along with people from different cultures. Thus, it is important to deal with and study aggression, its causes, definition and types.

Even though it is a hot topic, it is hard to have a perfect definition of aggression. There are different definitions of aggression. It has a meaning of a behavior damaging others ac-

According to the behaviorists, while emotionists define it as a behavior caused by anger feeling. According to the motivational definitions, behaviors' being aggressive or not determine by the intent (Yavuzer & Ure, 2010). In another definition "aggression is any kind of behavior that hurt so can hurt others" (Freedman et al.1998, 235). According to Freud, aggression is an important derivative of death instinct and people's ungiving destructive inclination directing toward objects the external world (Gectan, 2006, 31). Aggression is a situation consisting of harmful behaviors and attitudes as physically, emotionally and intentionally (Ballard and et al., 2004).

Howsoever caused, since aggression since is an impairing movement in general, it is not hold with by the society. Therefore, to determine the relation between aggression and factors effecting aggression is of capital importance. Even though aggression is a hot topic around the world, in Turkey there is limited study done on aggression. Especially, aggression and its relation with intelligence haven't been studied.

Cultural intelligence is an individual's capability of functioning in culturally diverse settings. This doesn't mean to function in other country's or foreigners' cultures. This can be within our own country such as within different ethnic, language, religion groups. People with high level of cultural intelligence easily can interact with diverse people. Individuals who have good interactions with others and feel comfortable while interacting with others will be happy and behave gentle. People, who cannot interact with people from diverse settings and feel uncomfortable with others, will be anxious and nervous. People feeling anxious and nervous are akin to be aggressive. Thus, this study aimed to determine if there is any correlation between cultural intelligence and aggression. What is the relationship of aggression and cultural intelligence? Is low cultural intelligence level cause aggression between people from different cultures?

There has been an increasing importance of aggression and

its causes, types and results in Turkey. However, there hasn't been awareness on relations between aggression and intelligence types. Considering previous studies on aggression and intelligence, there has been some studies done on relation between emotional intelligence and aggression. Some of them are on emotional intelligence of adolescents and aggression (Ümit, 2010), relationship between anger levels and anger expression with emotional intelligence levels of vocational school students (Tetik, Ökmen & Bal, 2014), the relationship between aggression, mobbing and emotional intelligence (Özen, 2013), and soon. On the other hand, there isn't any study on cultural intelligence and aggression done in Turkey. This study aimed to narrow the gap on literature.

Method

This section explains and justifies the method used to determine the association between cultural intelligence and aggression levels of teacher candidates studying at a university in Turkey. In this section of the study, participants, sources of data, survey instrument, and data collection used in this study are presented. It also presents the detailed information about the statistical analysis and techniques utilized for data analysis.

Methodology of Data Collection

During the fall semester of 2016-2017 academic years between September and December, the data were collected at the university. All participants participated voluntarily and ethical guidelines for protection of participants were observed. The researcher informed them that their names will not be asked and included in this study to ensure their participation. To encourage survey response, the researcher added a brief statement at the top of survey material in order to let them know about the aim, scope and the possible outcomes of the study.

For testing the level of Cultural Intelligence, participants answered 20 questions using a likert scale from (1) to (7); "Completely disagree" = (1), "Mostly disagree" = (2), "Disa-

gree” = (3), “Not Sure” = (4), “Agree” = (5), “Mostly agree” = (6), “Completely agree” = (7). Besides the 20 item questionnaire, learning the level of aggression participants answered 29 questions of Buss-Perry Aggression Scale with 5 point likert scale from (1) to (5); “Completely disagree” = (1), “Disagree” = (2), “Not Sure” = (3), “Agree” = (4), “Completely agree” = (5).

Participants

Since socio-demographic background of people could affect them in a various way, it would be meaningful to look at the gender, parent’s education, and the region their hometown is located. Thus, gender, the educational levels of parents, and the region they live are asked to the participants. Participants of the study were 214 teacher candidates graduated and enrolled pedagogical formation classes on 2016-2017 academic years. 146 (%71, 9) female and 57 (% 28, 1) male teacher candidates participated to the study (See Table 1). In Turkey, students enrolled to public schools come from different cultural backgrounds. There are immigrants, refugees and students from different regions of Turkey. To be able to communicate and get along with these children teachers should have a high level of cultural intelligence. Does teachers’ low level of cultural intelligence affect their behaviors? Which means if teachers have low level of cultural intelligence level, do they get angry or behave badly to students? Since teachers’ behaviors toward students important for education, this study aimed to look at teachers’ cultural intelligence level and its relation to aggression.

Table 1: Sociodemographics of Participants as Independent Variables

Sociodemographics		Frequency	Percent
Gender	Female	146	71,9
	Male	57	28,1
Educational Level	Illiterate	Mothers’	3 1,5
		Fathers’	1 ,5

	Primary School	Mothers'	154	77,0	
		Fathers'	113	55,1	
	High School	Mothers'	31	15,5	
		Fathers'	50	24,4	
	Higher Education	Mothers'	12	6,0	
		Fathers'	41	20,0	
	Home cities	Mediterranean		40	19,2
		Aegean		110	52,9
Central Anatolia		15	7,2		
Black Sea		6	2,9		
Marmara		21	10,1		
Southeast Anatolia		8	3,8		
East Anatolia		8	3,8		

Sources of Data and Survey Instruments

To determine the association between cultural intelligence and aggression levels of the participants, participants applied both Cultural Intelligence Scale (CQS) and Buss-Perry Aggression Scale (BPAS) together. Both questionnaires have been already tested for reliability and validity concerns. The CQS developed by Ang et al. in 2007 was adapted to Turkish and assessed its psychometrics properties including scale's validity and reliability by Ilhan and Cetin in 2014. Ang et al. (2007) used three cross-validation samples and substantive studies to support empirically for the reliability and validity of the scale. Results of three cross-validation samples and three substantive studies provide strong empirical support for the reliability, stability and validity of the CQS and demonstrate that specific

dimensions of CQ have differential relationships with cognitive, affective and behavioral intercultural effectiveness outcomes. Corrected item-to-total correlations for each subscale (0.46–0.66) demonstrated strong relationships between items and their scales, supporting internal consistency. Reliabilities exceeded 0.70 (metacognitive CQ = 0.77, cognitive CQ = 0.84, motivational CQ = 0.77, and behavioral CQ = 0.84). Ilhan and Cetin (2014) also assessed scale's validity, reliability. Adaptation to Turkish version. Based on these results, it can be concluded that Turkish version of CQS is a valid and reliable measurement in assessing university students' cultural intelligence.

Buss-Perry Aggression Scale (BPAS) was adapted from Buss-Durkee Hostility Inventory (Buss & Durkee, 1957) and generated by Buss and Perry in 1992. As an aggression scale, BPAS was commonly used around the world (Demirtas Madran, 2012). This scale was adapted to Turkish and assessed its psychometrics properties with scale's validity and reliability by Demirtas Madran in 2012.

The Cultural Intelligence Scale (CQS) consists of 20 items and 4 dimensions. First dimension is metacognitive level and consists of 4 questions, second dimension is cognitive level and consists of six questions, and third dimension is motivational level and consists of 5 questions. Last level is behavioral level and consists of 5 questions.

Buss-Perry Aggression Scale (BPAS) consists of 29 items with 5 point likert scale. The scale aimed to evaluate four different dimensions of aggression such as physical aggression, verbal aggression, hostility, and anger. Physical aggression subscale consists of 9 questions related to damaging others physically; verbal subscale 5 questions related to hurting others verbally; anger subscale 7 questions aiming to evaluate emotional dimension of aggression; and hostility subscale 8 questions aiming to evaluate cognitive dimension of aggression.

Data Analysis and Findings

This study aims to examine the correlations between cultural intelligence and aggression levels of teacher candidates in a descriptive manner. To show whether the cultural intelligence and aggression levels of teacher candidates are associated with each other, Spearman's coefficient (ρ) method as a bivariate level analysis is used. Since the explanation of the factors associated with the levels of cultural intelligence and aggression of participants is not in the scope of the study, multilevel analyses were not conducted. Anyway, this part of the study lays out the techniques and methods used in this study and then report the findings of the study.

It examines data through a couple of steps. First, it begins providing univariate information about the computed and recorded variables by showing simple data presentation in a descriptive manner. It then presents the bivariate analyses between cultural intelligence scale and aggression level scores.

The Table 2 shows the frequencies of the aggression and cultural intelligence variables. First looking at the mean values of Cultural Intelligence subdimension variables, it is seen that Motivation gets the highest mean score ($n=212$ and $mean=25,02$) while Metacognition gets the lowest one ($n=207$ and $mean=21,29$). The mean value of Cognition is 23,51 with $n=205$ and the mean value of Behavior is 24,13 with $n=211$. When we look at the mean values for the subdimension variables of Aggression, we see that Hostility gets the highest mean value ($mean=23,05$ and $n=200$) while Verbal gets the lowest one ($mean=14,54$ and $n=207$). The mean value of Anger is 20,46 with $n=202$ and the mean score of Physical is 19,77 with $n=205$. Finally, the total score of Aggression level (Agg_Total) gets the mean value of 78,49 with $n=214$ and the total score of Cultural Intelligence level (CQ_Total) gets the value of 72,49.

Table 2: Frequencies of the Aggression and Cultural Intelligence Variables

Variables	Mean	Std. Deviation	Minimum	Maximum	N
Metacognition	21,29	3,391	8	28	207
Cognition	23,51	6,410	6	39	205
Motivation	25,02	5,704	6	35	212
Behavior	24,13	4,995	9	35	211
Verbal	14,54	3,164	7	25	207
Hostility	23,05	5,005	11	36	200
Anger	20,46	4,924	10	33	202
Physical	19,77	5,636	9	39	205
Agg_Total	78,49	13,874	45	125	214
CQ_Total	72,49	11,488	33	100	214

Spearman's correlation coefficient matrix (see Table 3) shows several significant associations between cultural intelligence and aggression level including the subdimension and sociodemographic variables. First, the researcher looked at the significant relationship between sociodemographics and the level of Aggression and Cultural Intelligence including the sub dimensions. As a dichotomy variable gender was not included into Spearman's correlation matrix because it would not be appropriate concerning its nominal scale. Second, the researcher examined the statistically significant correlations between the Cultural Intelligence level and the level of Aggression including the subdimensions of both.

The educational level of participants' mothers has positively significant relationships with Motivational Cultural Intelligence ($p < .05$ and $T_s = .139$), with Aggression level as Physical ($p < .01$ and $T_s = .188$), with Aggression level as Anger ($p < .05$ and $T_s = .128$), and with Total Aggression level ($p < .01$ and T_s

=.154). The educational level of participants' mother gets higher, the level of Motivational Cultural Intelligence, Physical Aggression, Anger, and Total Aggression for the participants also get higher. The educational level of participants' fathers has only significant relationship with Aggression level as Physical ($p < .05$ and $T_s = .132$). The direction of the relationship is positive. It means that the higher educational level of participants' fathers is associated with the higher level of participants' physical aggression.

Participants' metacognition level has no statistically significant relationship with any of the subdimension of Aggression variables and the Total Aggression variable itself. However, participants' metacognition level is strongly correlated with the other subdimensions of Cultural Intelligence variables such as Cognition ($p < .01$ and $T_s = .359$), Motivational Cultural Intelligence ($p < .01$ and $T_s = .582$), and Behavioral Cultural Intelligence ($p < .01$ and $T_s = .355$). It is also strongly associated with the Total Cultural Intelligence Level ($p < .01$ and $T_s = .616$).

Likewise, participants' cognition level has no statistically significant association with any of the subdimension of Aggression variables and the Total Aggression variable itself. In the same way, participants' cognition level is strongly correlated with the other subdimensions of Cultural Intelligence variables such as Motivational Cultural Intelligence ($p < .01$ and $T_s = .415$) and Behavioral Cultural Intelligence ($p < .01$ and $T_s = .353$). It is also strongly correlated with the Total Cultural Intelligence Level ($p < .01$ and $T_s = .764$). Looking at the Motivational Intelligence Level of Participants, it is seen that Participants' motivational intelligence level has statistically significant relationships both with two subdimensions of Aggression variables and with the Total Cultural Intelligence variable including its subdimension variables. The motivational intelligence level of participants is negatively associated with the participants' hostility ($p < .01$ and $T_s = -.203$) and anger aggression levels ($p < .05$ and $T_s = -.160$). It is also strongly correlated with Behavioral Cul-

tural Intelligence ($p < .01$ and $T_s = .525$) and with the Total Cultural Intelligence Level ($p < .01$ and $T_s = .718$).

Participants' Behavioral Cultural Intelligence Level has no statistically significant relationship with any of the subdimension of Aggression variables and the Total Aggression variable itself. Like having the strong correlation with the subdimension variables of Cultural Intelligence, it is also strongly associated with the Total Cultural Intelligence Level ($p < .01$ and $T_s = .653$).

When we look at the correlations among the subdimension variables of Aggression level, it is seen that all of them have statistically strong correlations with each other and with Total Aggression Level at slightly different power. Only participants' hostility and anger aggression levels are associated with Total Cultural Intelligence Level in a negative direction (hostility= $p < .05$ and $T_s = -.155$ and anger= $p < .05$ and $T_s = -.171$).

At last but not the least, it is very important to reveal if there is a significant association between the Total Cultural Intelligence Level and Total Aggression Level. The results show that the Total Cultural Intelligence Level is negatively correlated with the Total Aggression Level ($p < .05$ and $T_s = -.116$).

Table 3: Correlations between Socio Demographics, Cultural Intelligence and Aggression Levels

		Fatheredu	Metacog	Cognition	Motivation	Behavior	Verbal	Hostility	Physical	Anger	Agg_Total	CQ_Total
Motheredu	Corr.Coeff	,483*	,041	,000	,139*	-,078	,083	,094	,188*	,128*	,154*	,050
	Sig.	,000	,287	,496	,026	,138	,126	,100	,005	,039	,015	,239
	N	199	194	192	198	197	193	189	191	190	200	200
Fatheredu	Corr.Coeff		,029	,000	,090	-,003	,081	-,001	,132*	,002	,093	,038
	Sig.		,344	,495	,101	,482	,129	,492	,033	,488	,092	,295

	N		199	196	203	202	198	193	196	195	205	205
Metacog	Corr.Coeff			,359*	,582*	,355*	,080	-,116	-,076	-,072	-,090	,616*
	Sig.			,000	,000	,000	,129	,055	,144	,159	,100	,000
	N			201	205	204	202	193	198	195	207	207
Cognition	Corr.Coeff				,415*	,353*	-,016	-,073	-,038	-,116	-,098	,764*
	Sig.				,000	,000	,413	,158	,300	,055	,081	,000
	N				203	202	199	192	197	193	205	205
Motivation	Corr.Coeff					,525*	,105	-	-,094	-	-,102	,718*
	Sig.					,000	,067	,002	,091	,012	,069	,000
	N				210	205	198	203	200	212	212	
Behavior	Corr.Coeff						,002	-,042	-,093	-,090	-,078	,653*
	Sig.						,490	,277	,095	,102	,131	,000
	N					204	197	202	199	211	211	
Verbal	Corr.Coeff							,308*	,407*	,424*	,549*	,034
	Sig.							,000	,000	,000	,000	,314
	N						194	198	195	207	207	
Hostility	Corr.Coeff								,308*	,741*	,718*	-
	Sig.								,000	,000	,000	,014
	N							194	195	200	200	
Physical	Corr.Coeff									,497*	,666*	-,061
	Sig.									,000	,000	,191
	N								195	205	205	

have high cultural intelligence level we are less aggressive to other people.

It can be summarized that if teacher candidates have high level of cultural intelligence they will not have high level of aggression to their students from different environment, background or culture. 'Cultural intelligence, defined as an individual's capability of function and manage effectively in culturally diverse settings'' (Ang, S & Van Dyne, L., 2008, 3). Since teachers face with students from diverse cultures, teachers' cultural intelligence level is important. The results of the study supported to hypothesis of this study.

Even though the results supported to the hypothesis of this study, there are limitations of the study. First limitation is that the study should be done teachers who are facing students from diverse settings. Since teacher candidates haven't been faced with students they could just imagine being with students from different settings. For future studies, it is recommended that this study can be done with teachers who are working with students from diverse settings. Another limitation of the study that there isn't much study done on cultural intelligence level in Turkey; this limits the comparison and of the study with previous literature. Last limitation of the study was generalizability. Since the study was done at a university, it is impossible to generalize to whole country. For future studies, it is recommended that more universities from different regions of the country can be added to the study.

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