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A Structural Model of the Relationships between The Emotional Intelligence and the Critical Thinking Disposition in Physical Education and Sports Teacher Candidates

Beden Eğitimi ve Spor Öğretmen Adaylarında Duygusal Zeka ve Eleştirel Düşünme Eğilimi Arasındaki İlişkilerin Yapısal Bir Modeli

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ABSTRACT: This research aims to investigate effect of emotional intelligence level of physical education and sports teacher candidates on critical thinking. Research group consists of 205 participants studying in Department of Physical Education and Sport Teaching, Gazi University Sports Sciences Faculty in 2019-2020 academic year. In research, a modeling that shows possible relationships between mentioned variables was created and this model was tested by using structural equation modeling. It has been asserted that emotional intelligence level of the participants has a positive effect on critical thinking disposition. In research, convenience sampling technique, which is one of purposeful sampling methods, was used. Emotional Intelligence Scale and Critical Thinking Disposition Scale were used as data collection tools. Descriptive statistics and t-test were used to analyze data, and also a structural equation modeling was established. Considering the results of the analysis, it was seen that critical thinking disposition and emotional intelligence level of participants don't express statistically significance according by gender, $t(203) = -.38$, $p > .05$; $t(203) = -.38$, $p > .05$. It was determined that the average score of the participants obtained from the Emotional Intelligence Scale and the Critical Thinking Disposition Scale was respectively $\bar{x} = 3.82$ and $\bar{x} = 3.76$. When results of the structural equation model between emotional intelligence level and critical thinking disposition of the participants were examined, it was determined that emotional appraisal and positive utilization positively affected critical thinking disposition. Considering the model's Squared Multiple Correlations (R2) value, it was seen that 34% of engagement, 30% of cognitive maturity and 29% of innovativeness were explained by emotional intelligence.

Keywords: emotional intelligence, critical thinking disposition, structural equation, teacher candidate, university.

ÖZ: Bu araştırma, beden eğitimi ve spor öğretmeni adaylarının duygusal zeka düzeylerinin eleştirel düşünme üzerindeki etkisini araştırmayı amaçlamaktadır. Araştırma grubu 2019-2020 öğretim yılında Gazi Üniversitesi Spor Bilimleri Fakültesi Beden Eğitimi ve Spor Öğretmenliği Bölümünde öğrenim gören 205 katılımcıdan oluşmaktadır. Araştırmada, bahsedilen değişkenler arasında olası ilişkileri gösteren bir modelleme oluşturulmuş ve bu model yapısal eşitlik modellemesi kullanılarak test edilmiştir. Katılımcıların duygusal zekâ seviyelerinin eleştirel düşünme eğilimi üzerinde olumlu bir etkiye sahip olduğu ileri sürülmüştür. Araştırmada amaçlı örnekleme yöntemlerinden uygun örnekleme tekniği kullanılmıştır. Veri toplama aracı olarak Duygusal Zeka Ölçeği ve Eleştirel Düşünme Eğilimi Ölçeği kullanılmıştır. Verilerin analizinde tanımlayıcı istatistikler ve t-testi kullanılmış, ayrıca yapısal bir eşitlik modeli oluşturulmuştur. Analiz sonuçları dikkate alındığında, katılımcıların eleştirel düşünme eğilimi ve duygusal zeka düzeyinin cinsiyete göre istatistiksel olarak anlamlı olmadığı ifade edilmiştir, $t(203) = -.38$, $p > .05$; $t(203) = -.38$, $p > .05$. Duygusal Zeka Ölçeği ve Eleştirel Düşünme Eğilimi Ölçeğinden elde edilen katılımcıların ortalama puanlarının sırasıyla $\bar{x} = 3.82$ ve $\bar{x} = 3.76$ olduğu belirlenmiştir. Katılımcıların duygusal zekâ düzeyi ile eleştirel düşünme eğilimi arasındaki yapısal eşitlik modelinin sonuçları incelendiğinde, duygusal değerlendirme ve duyguların olumlu kullanımının eleştirel düşünme eğilimini olumlu etkilediği belirlenmiştir. Modelin Çoklu Korelasyon değeri (R^2) dikkate alındığında, katılımın %34'ünün, bilişsel olgunluğun %30'unun ve yenilikçiliğin %29'unun duygusal zekâ ile açıklandığı görülmüştür.

Anahtar Kelimeler: duygusal zekâ, eleştirel düşünme eğilimi, yapısal eşitlik, öğretmen adayı, üniversite.

1. INTRODUCTION

It would not be wrong to say that as people meet technology, they move away from each other. Adopting a disconnected life from neighbor and even family reveals some global problems. It is possible to say that this individualization has transformed people into more introverted, asocial and individuals not sharing their emotion. It is thought that emotional intelligence characteristics of individuals are also important in overcoming such situations.

Salovey, Brackett and Mayer (*2004*) defined emotional intelligence as a subset of social intelligence, which includes the ability to observe the feelings and emotions of one's self and others, to distinguish between them, and to

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use this knowledge to guide someone else's thoughts and actions. Social intelligence incorporated the social elements of human interaction, and can be considered the earliest version of emotional intelligence (*Bhochhibhoya & Branscum, 2015*). Wraham (*2009*), on the other hand, expressed emotional intelligence as the potential to one to be aware of own feelings and to use them in communication with oneself and others, and to manage and motivate oneself and others by understanding emotions.

It can be stated that one of the concepts predicted to be related to emotional intelligence is critical thinking. Because critical thinking was defined as the ability to apply higher-order cognitive skills (conceptualization, analysis, evaluation), and the tendency to be deliberate about thinking (being open-minded or intellectually honest) that lead to action that is logical and appropriate (*Papp et al., 2014*). Critical thinking provides development of individuals' evaluation ability with better learning (*Semerci, 2003*). When it was thought that thinking ultimately determines the quality of our emotions, it can be said that critical thinking provides a vital link between intelligence and emotions in the person having emotional intelligence. Critical thinking is the only appropriate vehicle by which we can bring intelligence related to our emotional life. Critical thinking provides us with necessary mental tools to clearly understand how reasoning works and how these tools can be used to take control of what we think, feel, desire and do (*Elder, 1997*). Facione, Facione and Giancarlo (*1998*) determined the sub-factors of critical thinking as engagement, cognitive maturity and innovativeness. Kılıc and Sen (*2014*) stated that individuals with a high tendency to engagement are confident communicators. They also stated that an individual with a high level of cognitive maturity is aware of their own tendencies and prejudices in the decision-making process. In addition, they stated that people with a tendency to be innovative have a tendency to be innovative regarding their professions, positions, lives and worlds. When it was paid attention to the definition of both concepts, it can be seen that they have common aspects. It can be said that an individual having a developed emotional intelligence can analyze people and relationships between people better. Also, it is anticipated that individuals having critical thinking skills will have the same analysis ability. A person who is aware of himself and other people's feelings and thoughts and evaluates them from different perspectives may have critical thinking skills (*Dutoglu & Tuncel, 2008*). Because it is not possible to criticize a subject correctly without thinking deeply and analyzing it.

1.1. Aim and Importance of The Research

This research was conducted to predict the critical thinking disposition of the physical education and sports teacher candidates. Emotional intelligence and critical thinking are seen as important skills that a teacher should have. Teachers should be able to empathize, evaluate emotions, generate innovative ideas and think critically in the face of situations they encounter. When the literature is examined, it was not encountered a study aiming to reveal the predictive effect of emotional intelligence on critical thinking. However, there are studies aiming to determine the relationship between them (*Erdem et al., 2013; Certel et al., 2011; Dutoglu & Tuncel, 2008; Torun, 2011*). In this regard, it is thought that the contribution of the current research to the literature in order to explain the critical thinking feature is important. Because, this research will be one of the pioneering studies on the predictive effect of emotional intelligence on critical thinking among physical education teacher candidates and will be a reference for future research. In this context, the aim of the study is to examine the effects of physical education and sports teacher candidates' emotional intelligence levels on critical thinking disposition.

2. METHOD

2.1. Research Goal

The aim of this research is to investigate the effect of the emotional intelligence level of physical education and sports teacher candidates on the critical thinking.

2.2. Research Design and Hypotheses

The research was designed by using a relational screening model. Relational screening model is used to determine the relationship between two or more variables and to get clues about cause-effect (Karasar, 2017). As a result of the literature review, the model of the research was constructed in the focus of latent and observed variables. The model created was tested by establishing a structural equation model. Structural equation is a combination of factor analysis and regression analysis and is a theoretical structure represented by latent and observed variables (Simsek, 2007). The hypotheses of the model created in accordance with the purpose of the research as a result of the literature review are given below.

H1: Emotional appraisal (EA) positively affects engagement (E).

H2: Empathic sensitivity (ES) positively affects engagement (E).

H3: Positive regulation (PR) positively affects engagement (E).

H4: Positive utilization (PU) positively affects engagement (E).

H5: Emotional appraisal (EA) positively affects cognitive maturity (CM).

H6: Empathic sensitivity (ES) positively affects cognitive maturity (CM).

H7: Positive regulation (PR) positively affects cognitive maturity (CM).

H8: Positive utilization (PU) positively affects cognitive maturity (CM).

H9: Emotional appraisal (EA) positively affects innovativeness (I).

H10: Empathic sensitivity (ES) positively affects innovativeness (I).

H11: Positive regulation (PR) positively affects innovativeness (I).

H12: Positive utilization (PU) positively affects innovativeness (I).

2.3. Research Group

The research group of the research consists of 205 participants, of which 119 (58.0%) are women and 86 (42.0%) are men, studying in the Department of Physical Education and Sport Teaching at Gazi University Faculty of Sport Sciences in the 2019-2020 academic year. 56 (27.3%) of the participants are first grade student, 52 (25.3%) are the second-grade student, 57 (27.8%) are third grade student and 40 (19.5%) are fourth grade student. However, the average age of the participants was determined as 20.72±3.21.

Purposeful sampling method was used to determine the research group. In the purposeful sampling method, the researcher selects the sample according to the criteria determined beforehand and conducts research (Cohen, Manion & Morrison, 2000).

2.4. Data Collection Tools

Personal information form, Emotional Intelligence Scale and Critical Thinking Disposition Scale were used to collect data.

2.4.1 The Emotional Intelligence Scale

The Emotional Intelligence Scale was developed by Chan (2004 and 2006) and adapted to Turkish by Aslan and Ozata (2008). The scale consists of 4 sub-dimensions. These are emotional appraisal, empathic sensitivity, positive regulation and positive utilization. There are 3 items in each sub-dimension and 12 items in total are on the scale. In the scale there are the expressions "I strongly disagree, I disagree, I am indecisive, I agree, I strongly agree" for each item and the scale is a 5-point Likert scale. Cronbach's Alpha internal consistency coefficient of the scale is .85. The internal consistency coefficient obtained from the data set was determined as .86 for current study.

2.4.2 Critical Thinking Disposition Scale

The Critical Thinking Disposition Scale (The California Critical Thinking Disposition Inventory-CCTDI) was developed by Facione, Facione and Giancarlo (1998) and adapted to Turkish by Kılıc & Sen (2014). The scale, which consists of 25 items and 3 sub-dimensions, has a 5-point Likert structure. The Cronbach Alpha internal consistency coefficient of the scale was 0.91 for the whole scale; 0.88 for the engagement sub-dimension; 0.70 for cognitive

maturity sub-dimension; 0.73 for the innovativeness sub-dimension. The Cronbach Alpha internal consistency coefficients obtained from the data set were determined as .91, .80, .74 and .72, respectively.

2.4.3 Confirmatory Factor Analysis Results of Measurement Tools Used in the Research

Table 1. Confirmatory factor analysis results of emotional ıntelligence scale and critical thinking disposition scale

Model Fit Index	Perfect Range	Acceptable Range	EIS	CTDS
X^2/df	$0<X^2/df<2$	$2<X^2/df<5$	3.05	3.15
RMSEA	0.00<RMSEA<0.05	0.05<RMSEA<0.09	.08	.08
PGFI	0.95<PGFI<1.00	0.50<PGFI<0.95	.57	.64
PNFI	0.95<PNFI<1.00	0.50<PNFI<0.95	.60	.56
GFI	0.90<GFI<1.00	0.85<GFI<0.90	.87	.86
AGFI	0.90<AGFI<1.00	0.85<AGFI<0.90	.86	.89
CFI	0.95<CFI<1.00	0.90<CFI<0.95	.93	.90

Kline, 2005; Tabachnick & Fidell, 2007; Thompson, 2004

In order to test the construct validity of Emotional Intelligence Scale and Critical Thinking Disposition Scale, multi-factor confirmatory factor analysis was applied. In accordance with the suggestions of the Amos 22 package program, the 15th item of the Critical Thinking Disposition Scale was removed and covariance was assigned between the items 7 and 8. The fit index values determined as a result of the analysis show that the structures of the measuring tools are verified (Meydan & Sesen, 2011). The fit index values determined by the realization of the relevant modifications are presented in Table 1.

2.5. Analyzing of Data

First of all, 11 outliers in the data set were removed and analyzes were made with 205 data in total. Then, the distribution of the data obtained from the scales used in the study was examined. For this purpose, Shapiro-Wilk test was used and result of significance was found for the scales used in the research as $p < .05$. For this reason, Skewness and Kurtosis values were examined. It was determined that these values were between -1.5 and +1.5 for both scales. This shows that the data is normally distributed (Tabachnick & Fidell, 2013). Whether the data is convenient for factor analysis was determined by Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett test. These values are determined as .84 for Critical Thinking Disposition Scale and .87 for Emotional Intelligence Scale. When the obtained data is examined, it was determined that the data were convenient for factor analysis (Seker, Deniz & Gorgen, 2004). However, when the values obtained from the data set are examined; The total variance value explained for Critical Thinking Disposition Scale was 45.53 and 58.5 in the Emotional Intelligence Scale. Demographic characteristics of the participants are shown with percentage and frequency. Descriptive statistics were used to determine the mean scores of the scales used in the study. Comparison between the gender variable and the total scores obtained from the scales was made with the t-test. Then, the theoretical model created by establishing a structural equation model was tested. The data in this study were analyzed by using SPSS 22.0, AMOS 22.0 package programs and Excel database program. Composite reliability was calculated as .90 for emotional intelligence and .86 for critical thinking.

3. FINDINGS

In this section, the findings obtained from the analysis of the data obtained from the participants are presented.

Table 2. Mean scores of the participants from the Emotional Intelligence Scale and its sub-dimensions

Scales	n	Min	Max	M	Std. Deviation
Emotional Appraisal	205	1.00	5.00	3	.75
Empathic Sensitivity	205	1.00	5.00	4	.75
Positive Regulation	205	1.00	5.00	3	.88
Positive Utilization	205	1.00	5.00	3	.82
Total	205	1.00	5.00	3	.64

The mean score of the participants from the Emotional Intelligence Scale was determined as $\bar{x}$=3.82. As a result of the analyzes, the emotional intelligence level of the participants was determined to be above the average. In addition, the mean scores of the participants from the sub-dimensions of the scale were determined as $\bar{x}$=3.74, $\bar{x}$=4.01, $\bar{x}$=3.53 and $\bar{x}$=3.83 respectively.

Table 3. Mean scores of participants from the Critical Thinking Disposition Scale and its sub-dimensions

Scales	n	Min	Max	Mean	Std. Deviation
Engagement	205	1.73	5.00	3.67	.58
Cognitive Maturity	205	1.43	5.00	3.87	.60
Innovativeness	205	1.43	5.00	3.79	.63
Total	205	1.64	5.00	3.76	.56

The mean score obtained from the Critical Thinking Disposition Scale is $\bar{x}$=3.76. From this point, it can be stated that the level of critical thinking disposition of the participants is above average. In addition, the mean scores of the participants from the sub-dimensions of the scale were determined as $\bar{x}$=3.67, $\bar{x}$=3.87 and $\bar{x}$=3.79 respectively.

Table 4. T-test results showing Emotional Intelligence and Critical Thinking score of participants by gender

Scales	Gender	n	Mean	Std. Deviation	df	t	p
EIS	Female	119	3.78	.68	203	-1.03	.30
	Male	86	3.87	.58			
CTDS	Female	119	3.75	.54	203	-.38	.70
	Male	86	3.78	.58			
	Total	205					

When Table 4 was analyzed, it was seen that the mean score of female participants from the Emotional Intelligence Scale was $\bar{x}$=3.78, and the average score of male participants was $\bar{x}$=3.87. The results of the analysis showed that the emotional intelligence level of the participants did not differ significantly according to the gender variable, $t(203)= -1.03$, $p > .05$. In addition, it was determined that the mean score of female participants from the Critical Thinking Disposition Scale was $\bar{x}$ = 3.75, and the mean score of male participants was $\bar{x}$=3.78. As a result of the analyzes, it was seen that the participants' critical thinking disposition did not show statistically significance according to the gender variable, $t(203) = -.38$, $p > .05$.

Findings Related to the Analysis of the Critical Thinking Disposition with Path Analysis

Correlation analysis was applied in order to test the relationships between observed variables (engagement, cognitive maturity, innovativeness) and latent variables (emotional appraisal, empathic sensitivity, positive regulation and positive utilization). The relationships between the variables were determined by the Pearson Moment Product Correlation Analysis method. Analysis results were given in Table 5.

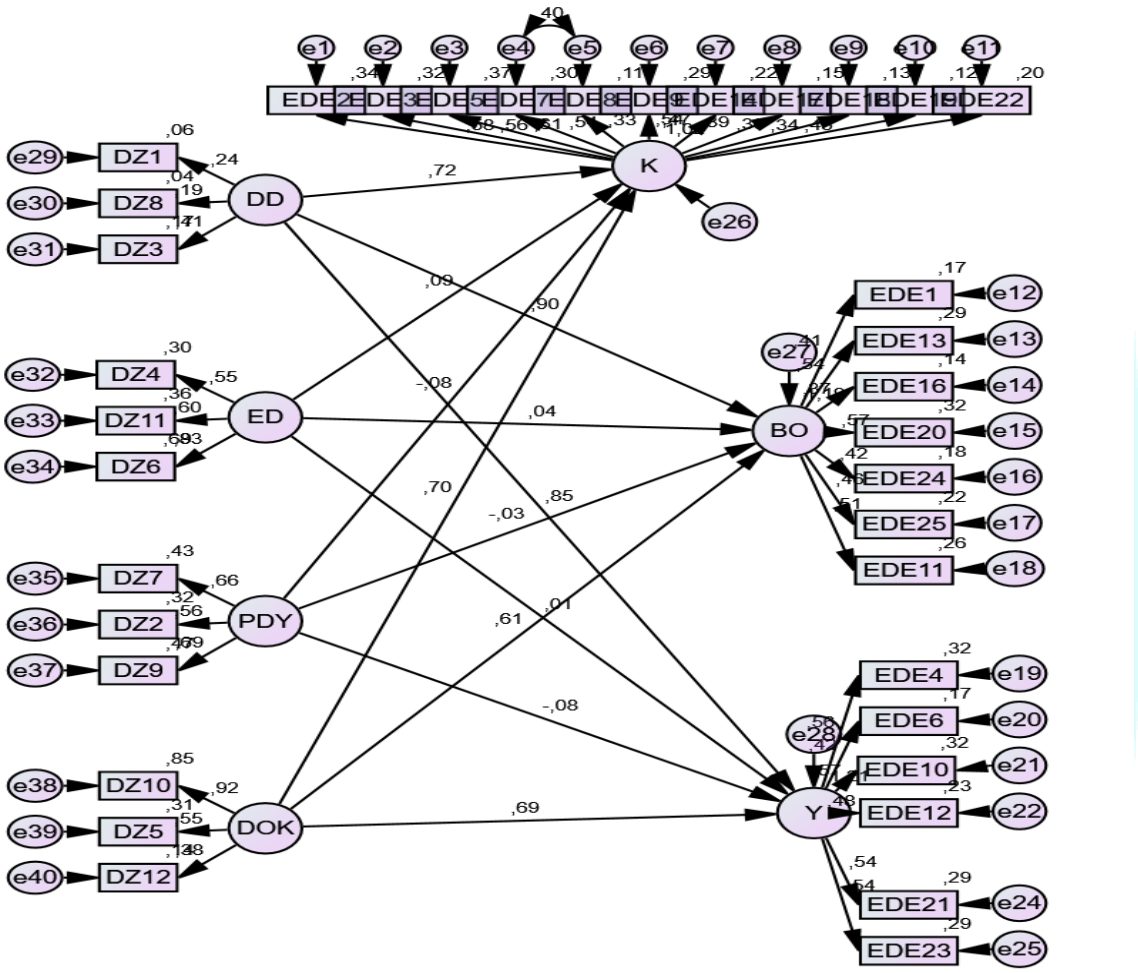
Table 5. Investigation of the relationship between variables with Pearson Moment Product Correlation

Variables	Emotional Appraisal	Empathic Sensitivity	Positive Regulation	Positive Utilization	Engagement	Cognitive Maturity	Innovativeness
Emotional Appraisal	1						
Empathic Sensitivity	.53**	1					
Positive Regulation	.60**	.38**	1				
Positive Utilization	.62**	.47**	.76**	1			
Engagement	.39**	.51**	.44**	.48**	1		
Cognitive Maturity	.42**	.44**	.42**	.49**	.80**	1	
Innovativeness	.37**	.41**	.42**	.50**	.80**	.82**	1

When Table 5 was examined, it was seen that there was positively and moderate relationship between emotional appraisal and engagement ($r = .39$, $p < .01$), cognitive maturity ($r = .42$, $p < .01$), innovativeness ($r= .37$, $p < .01$). In addition, it was determined that there was a positive and moderate correlation between empathic sensitivity and engagement ($r=.51$, $p < .01$), cognitive maturity ($r = .44$, $p < .01$), innovativeness ($r = .41$, $p < .01$). Moreover, a positive and moderate correlation was found between positive regulation and engagement ($r = .44$, $p < .01$), cognitive maturity ($r = .41$, $p<.01$), innovativeness ($r = .42$, $p < .01$). Also, it was seen that there was a positive and moderate correlation between positive utilization and engagement ($r = .48$, $p < .01$), cognitive maturity ($r = .48$, $p < .01$), innovativeness ($r = .50$, $p<.01$).

After determining the relationships between latent and observed variables, the predictive effect of emotional intelligence on the critical thinking disposition variable was tested by path analysis.

Figure 1. Structural Equation Model



The fit index values in figure 1 are given in table 6.

Table 6. Structural Equation Model Fit Index Values

Model Fit Index	Perfect Range	Acceptable Range	SEM
X^2/df	0<X^2/df<2	2<X^2/df<5	3.28
RMSEA	0.00<RMSEA<0.05	0.05<RMSEA<0.09	.08
PGFI	0.95<PGFI<1.00	0.50<PGFI<0.95	.64
PNFI	0.95<PNFI<1.00	0.50<PNFI<0.95	.61
GFI	0.90<GFI<1.00	0.85<GFI<0.90	.88
AGFI	0.90<AGFI<1.00	0.85<AGFI<0.90	.86
CFI	0.95<CFI<1.00	0.90<CFI<0.95	.92

Thompson, 2004; Jöreskog & Sörbom, 1993, Meydan & Şeşen, 2011.

When Table 6 was analyzed, it was seen that the model meets the necessary goodness of fit criteria, in other words, the data obtained with the model that was established has a sufficient level of compliance and the model was verified. (x2 / df = 3.28, RMSEA = .08, PGFI = .64, PNFI = .61, GFI = .88, AGFI = .86, CFI = .92).

After examining the goodness of fit values for the structural equation model, the paths in the model and the parameter predictions of the model were examined. According to the model created, the standardized β coefficients, standard error, critical ratio, p and R^2 values between the variables are shown in Table 7.

Table 7. Structural Equation Model Results

Variables		Standardized β	Standard Error	Critical Ratio	P	R^2
Emotional Appraisal	Engagement	.71	.20	4.60	***	.34
Empathic Sensitivity		.08	.05	1.22	.22	
Positive Regulation		-.07	.05	-1.04	.29	
Positive Utilization		.70	.22	4.43	***	
Emotional Appraisal	Cognitive Maturity	.90	.19	4.23	***	.30
Empathic Sensitivity		.04	.03	.55	.58	
Positive Regulation		-.02	.04	-.33	.73	
Positive Utilization		.61	.16	3.81	***	
Emotional Appraisal	Innovativeness	.85	.23	4.76	***	.29
Empathic Sensitivity		.01	.05	.14	.88	
Positive Regulation		-.07	.05	-.99	.32	
Positive Utilization		.68	.23	4.40	***	

Considering the results of the analysis, a statistically significant effect was found in the emotional appraisal and positive utilization's relationship with engagement, ($\beta_1 = .71$; $p < .05$; $\beta_4 = .70$; $p < .05$). It was seen that there was no significant effect in the relationship of empathic sensitivity and positive regulation with engagement, ($\beta_2 = .08$; $p > .05$; $\beta_3 = -.07$; $p > .05$). A statistically significant effect was determined in the relationship of emotional appraisal and positive utilization with cognitive maturity, ($\beta_5 = .90$; $p < .05$; $\beta_8 = .61$; $p < .05$). It was seen that there was no significant effect in the relationship of empathic sensitivity and positive regulation with cognitive maturity, ($\beta_6 = .04$; $p > .05$; $\beta_7 = -.02$; $p > .05$). In addition, a statistically significant effect was found in the relationship of emotional appraisal and positive utilization with innovativeness, ($\beta_9 = .85$; $p < .05$; $\beta_{12} = .68$; $p < .05$). However, it was seen that there was no significant effect in the relationship of empathic sensitivity and positive regulation with innovativeness, ($\beta_{10} = .01$; $p > .05$; $\beta_{11} = -.07$; $p > .05$).

The results of the structural equation model tested in the study indicate that hypotheses number 1, 4, 5, 8, 9 and 12 were accepted, and hypotheses number 2, 3, 6, 7, 10 and 11 were rejected. When the model's Squared Multiple Correlations (R^2) value was considered, it was seen that 34% of engagement, 30% of cognitive maturity and 29% of innovativeness were explained by emotional intelligence.

4. DISCUSSION

In this study, the effects of emotional intelligence on critical thinking disposition were examined through a structural equation model. In addition to this, it was determined whether the mean scores obtained from the scales used in the study showed a significant difference according to the gender variable. In addition, as a result of the descriptive statistics, the mean scores obtained from the scales and their sub-dimensions were presented.

As a result of the analyzes, the emotional intelligence level of the participants was determined to be above the average. When the previous researches were examined, it was seen that Ekinci-Vural (*2010*) stated that the preschool teacher candidates' emotional intelligence levels were above average. In addition, Certel et al. (*2011*) concluded that the emotional intelligence levels of the physical education teachers are above the average. Unlike other studies, Aykutlu et al. (*2019*) stated that emotional intelligence level of teacher candidates is moderate level. In addition, in studies conducted on university students, Avşar and Kaşıkçı (*2010*) stated that emotional intelligence level of nursing students was moderate level, and Oğan and Yücel-Toy (*2017*) emotional intelligence level of vocational school students was moderate level. The teaching profession is a profession that includes processes such as empathy and emotional regulation. Therefore, it can be expected that the emotional intelligence level of individuals who receive teaching education is above average. As a result of the current research, it was concluded that the emotional intelligence levels of the physical education teacher candidates are above the average.

In addition, it was concluded that the critical thinking disposition level of the participants was above average. When the literature was examined, in their study, similarly, it was seen that Rodzalan and Saat (*2015*) expressed that participants perceived high their critical thinking skill. Unlike other studies, Gökkus and Delican (*2016*) and Koçak et al. (*2015*) stated that teacher candidate's critical thinking disposition is moderate level. Similarly, Özdemir (*2005*) stated that the critical thinking skills of the participants in own study were moderate level. On the other hand, Şengül and Üstündağ (*2009*) and Öztürk et al. (*2016*) determined that critical thinking skills of participants were low level in their research. It is expected that a good educator has critical thinking skills as critical thinking requires deeply thinking and analysis. Because teachers play an important role in promoting contemporary societies to higher levels

and take a great responsibility in raising generations. In order to overcome all these responsibilities, it is important that they reach the truth by thinking and analyzing in depth.

As a result of the research, it was determined that the emotional intelligence levels of the participants did not differ by gender. When the studies in the literature were examined, it was seen that Mandell and Pherwani (*2003*) stated that female participants have higher emotional intelligence score than male participants. Moreover, Harrod and Scheer (*2005*) emphasized that females reported higher emotional intelligence than males. Also, Katyal and Awasthi (*2005*) indicated that females have higher emotional intelligence than males. Similarly, Extremera, Fernández-Berrocal and Salovey (*2006*) found that females had higher emotional intelligence than males. Likewise, Cabello et al. (*2016*) found that females had higher emotional intelligence than males. In contrast to other studies Ahmad, Bangash and Khan (*2009*) determined that male participants had higher emotional intelligence score compared to female participants. The current research results differ from other research results. This may be due to cultural differences in the countries where the researches were conducted.

According to another conclusion of the research, it was concluded that the levels of critical thinking disposition of the participants did not differ by gender. When previously studies were examined, similarly, it was seen that Mitrevski and Zajkov (*2012*) expressed that critical thinking did not show difference by gender. In addition, Salahshoor and Rafiee (*2016*) indicated that there was not a statistically significant difference in critical thinking scores for females and males. Likewise, Dehghani et al. (*2011*) determined that there was no difference between males and females. Moreover, Bakır (*2011*) expressed that there was no difference between males and females. Also, Du et al. (*2013*) stated that there was no gender differences in critical thinking. Similarly, Ricketts and Rudd (*2004*) emphasized that there was no difference between males and females in critical thinking. Contrary to other studies, Harish (*2013*) expressed that males were better that females in critical thinking. In recent years, it would not be wrong to say that societies have started to live a more modern life and that women have more say in both business and many other fields. For this reason, it is usual for women to analyze and think deeply everything as much as men. Even there are exceptions, the current literature states that there is no difference between men and women in critical thinking.

When the relevant literature was examined, it was seen that Leasa (*2018*) concluded that emotional intelligence did not have effect on critical thinking. Also, it was seen that there were also some studies in the literature that examined the relationship between emotional intelligence and critical thinking. Dutoğlu and Tuncel (*2008*), Ebrahimi (*2012*), Lee et al. (*2015*), Lee and Kim (*2017, 2018*) and Kim and Oh (*2016*) stated that there was a significantly positive relationship among emotional intelligence and critical thinking. Therefore, it is possible to state that the research results are generally supported in the relevant literature. It was determined that emotional appraisal and positive utilization affected critical thinking disposition. From this point, it can be stated that the skills of the participants such as awareness of emotions, having a positive effect on people, feeling the causes of emotional change and benefiting from past experiences in the face of a problem affected skills such as listening to ideas of others, looking for a solution in the face of a problem, the tendency to search for logical results and exposing problems clearly.

5. CONCLUSION AND SUGGESTIONS

In conclusion, it was concluded that the emotional intelligence and the critical thinking disposition level of the participants was above average. In addition, it was determined that the emotional intelligence levels and critical thinking disposition of the participants did not differ by gender. Also, it was determined that emotional appraisal and positive utilization affected critical thinking disposition. From this point, it can be stated that the skills of the participants such as awareness of emotions, having a positive effect on people, feeling the causes of emotional change and benefiting from past experiences in the face of a problem affected skills such as listening to ideas of others, looking for a solution in the face of a problem, the tendency to search for logical results and exposing problems clearly.

In this research, the research group was selected from only one university. In addition to this research, it is thought that conducting a new research by reaching more physical education and sports teacher candidate will make important and valuable contributions to the literature. Also, it is suggested that the critical thinking disposition is tested with different variables in order to better explain. In addition, the results of the research show that the tendency to think critically is explained by emotional intelligence. For this reason, it is recommended to adapt the trainings and activities that will improve the emotional intelligence feature in order to generate new ideas.

6. ETHICS DECLARATION

In this research, scientific ethical rules were followed at all stages of scientific research.

7. CONTRIBUTION OF AUTHORS

Both authors contributed to the design of the research. OBC prepared the introduction and discussion sections. NBG prepared the method and findings section. OBC adapted the article to journal writing rules.

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