

Does emotional intelligence determine the level of self-efficacy in athletes?

Varol Tural* and Mehmet Efe

Faculty of Sport Sciences, Siirt University, Siirt, Turkey.

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ABSTRACT

The purpose of this study is to identify the determinant role of emotional intelligence sub-dimensions (evaluation of others' emotions, evaluation of one's own emotions, regulation of emotions, social skills, use of emotions) in determining the self-efficacy levels of athletes. In addition, emotional intelligence, and self-efficacy levels of the athletes by gender variable were examined within the scope of this study and the results were reported. A total of 261 athletes from different sports (soccer, basketball, handball, volleyball, tennis, wrestling) volunteered to participate in the study with 163 males (57.8), ($X_{age} = 22.36 \pm 4.34$) and 119 females (42.2), ($X_{age} = 21.08 \pm 3.61$). Within the scope of the study, information on socio-demographic variables was collected using a personal information form created by the researchers. In the study, "Emotional Intelligence Sports Inventory" which was adapted into Turkish by Adiloğulları and Görgülü (2015), and the "Self-Efficacy Scale" which was adapted into Turkish by Öcel (2002) were used as measurement tools. The skewness and kurtosis values for the total score distribution of the surveys indicated that the distribution was normal. In line with this, descriptive statistics (frequency and percentage) were used, and Pearson correlation analyses were completed to determine the relationships between the variables. A stepwise regression analysis was completed to determine the power of independent variables in predicting the dependent variable. According to the findings obtained, it was determined that the emotional intelligence levels of the athletes are important determinants of their self-efficacy levels and the analysis completed in two steps explained approximately 12% of the variance. However, while there was no significant difference in the self-efficacy mean scores by gender, significant differences were found in the emotional intelligence levels of the athletes within the groups.

Keywords: Athlete, emotional intelligence, self-efficacy.

*Corresponding author. Email: turalvarol08@gmail.com.

INTRODUCTION

In recent years, it is known that an athlete's performance is not only affected by technical, tactical, and physiological characteristics, but also by mental processes. Many studies conducted within this context (Goldberg, 1998; Gimeno et al., 2001; Mahamud et al., 2007; Yarayan and Ayan, 2018, Yarayan et al., 2018, Ari et al., 2020) focused on psychological factors that have positive effects on sports performance. Indeed, Nicholls and Polman (2007) state that athletes' performance will increase to the optimal level as a result of using a correct psychological strategy. The concepts of emotional intelligence and self-efficacy taken within the scope of the study are also thought to be effective on the performance

component.

In the relevant literature, emotional intelligence is defined by Konrad and Hendi (1997) as a composition of an individual's emotional quality that is required to motivate themselves and others. Additionally, Salovey and Mayer (1990) defines emotional intelligence as the ability to monitor the emotions of others as well as to evaluate their own emotions and to distinguish between these emotions, and to use the data obtained from this to guide their behaviors and thoughts. However, researchers point out that emotional intelligence is necessary in every period of our lives for teamwork and that it enables individuals to manage relationships

effectively (Goleman, 1998; Mayer and Salovey, 1997; Kim, 2010).

The concept of self-efficacy, another concept included in the study, is defined by researchers as the ability to gain control over their own control mechanisms in difficult situations (Luszczynska et al., 2005), and the perception of the individual's capacity to perform a task, and the level of belief in their own performance level (Bandura, 1977). However, Bandura, (2002) and Lombardo (2006) state that individuals with high self-efficacy perception contribute to their performance by choosing correct and realistic goals.

Wood and Bandura (1989) stated that self-efficacy can be developed on the basis of a range of experiences, such as overcoming important challenges successfully, observing the achievements of others, and maintaining the physical and emotional states. Therefore, emotional intelligence is an important factor contributing to the formation of self-efficacy through awareness and regulation of emotions.

In this context, based on the theory that both emotional intelligence and self-efficacy are related to successful performance, it is thought that the results obtained within the scope of the study will contribute to the field of sports psychology. Accordingly, the aim of the study is to reveal the determining role of emotional intelligence sub-

dimensions in determining the self-efficacy levels of athletes.

METHOD

Research model

"The relational screening model was used in this study. Relational screening model is a type of research model that aims to determine whether there is a relationship between two or more variables and/or the degree of the relationship (Fraenkel and Wallen, 2006)." Within the scope of the research, it is to determine the determining role of emotional intelligence sub-dimensions in determining the self-efficacy levels of athletes. The research model is presented in Figure 1.

Study participants

As shown in Table 1, a total of 261 athletes from different sports (soccer, basketball, handball, volleyball, tennis, wrestling) volunteered to participate in the study with 163 males (57.8), ($X_{age} = 22.36 \pm 4.34$) and 119 females (42.2), ($X_{age} = 21.08 \pm 3.61$).

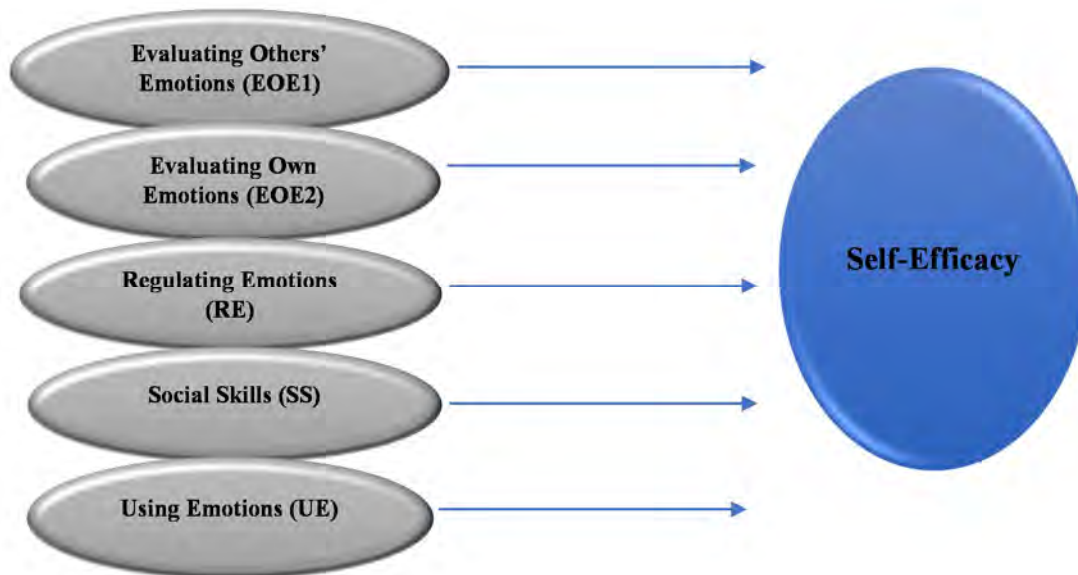


Figure 1. The research model.

Data collection tools

Personal information form

The form developed by the researchers consists of questions about gender, age and sports experience.

Self-efficacy in sports scale

The scale was developed by Riggs et al. (1994) to measure people's belief in their own capacities. The adaptation of the scale to Turkish was conducted by Öcel (2002). The scale is a 5-point Likert scale

Table 1. Descriptive statistical information of the individuals participating in the study.

Variable		n	%
Gender	Female	119	42.2
	Male	163	57.8
	Total	282	100.0
Sport Branch	Individual	170	60.3
	Team	112	39.7
	Total	282	100.0

(1=strongly disagree, 5=strongly agree) consisting of 10 items. The items 2, 3, 4, 6, 8, and 10 are reverse coded in the scale. The reliability coefficient calculated in this study for the whole scale was determined as .73.

Emotional intelligence sports inventory

The Emotional Intelligence Scale developed by Schutte et al. (1998) was adapted to the athlete population by Lane et al. (2009) to measure the emotional intelligence abilities of athletes. The inventory consists of 18 items and is evaluated as a 5-point Likert type (1 = strongly disagree; 5 = strongly agree). In addition, the inventory consists of 5 sub-dimensions. The scale was adapted to Turkish by Adiloğulları and Görgülü (2015). The reliability coefficient calculated in this study for the whole inventory was determined as .88.

Implementation phase

Data were collected through face-to-face and online surveys. Before the surveys were distributed to the athletes in face-to-face interviews, the athletes were informed about the scope of the study. There was no time limitation for data collection, and it was stated that honest responses to the surveys would provide the most accurate results.

Data analysis and interpretation

The data collected from the athletes within the scope of the study were entered to the SPSS 22.0 computer program. After this stage, first, blank data were evaluated to check for assumptions. As a result of these evaluations, the data of 11 participants were excluded from the analysis. For extreme value analysis, Mahalanobis distance was examined and as a result of the analysis, the data of 9 people were excluded from the analysis. Thus, the data analysis was completed on the data of the remaining 282 people. In order to determine the analyses to be completed in the study, the skewness and kurtosis values were examined by considering the

source of Kim (2013) and it was determined that the data showed a normal distribution. Accordingly, a t-test was used to determine whether there is a difference between the gender variable and the scores obtained from the scales, a Pearson correlation analysis was used to determine the relationships between the variables, and a stepwise regression analysis was completed to determine the power of independent variables (emotional intelligence sub-dimensions) in predicting the dependent variable (self-efficacy). Within the scope of the study, it was determined that the correlation values between the variables included in the model, which are the criteria of the regression analysis, were below 0.70, the variance increase factor (VIF) was below 10 and the tolerance value was above 0.2. Accordingly, it was found that there was no multicollinearity problem (Tabachnick and Fidell, 2013).

FINDINGS

When the emotional intelligence levels of the athletes were examined according to the gender variable in Table 2, it was found that there was no significant difference in the EOE2 ($t_{(280)} = -.173, p > .05$), RE ($t_{(280)} = -.152, p > .05$), SS ($t_{(280)} = .986, p > .05$), UE ($t_{(280)} = 1.302, p > .05$) sub-dimension scores. A statistically significant difference was found in the EOE1 ($t_{(280)} = 3.701, p < .05$) sub-dimension. When the mean scores were examined, it was found that the mean scores of female athletes ($\bar{X} = 19.714$) were higher than male athletes ($\bar{X} = 18.159$).

When the self-efficacy levels of the athletes were examined according to the gender variable in Table 3, it was found that there was no statistically significant difference in self-efficacy ($t_{(280)} = -.424, p > .05$) scores.

Relationships between variables in regression analysis

The results of the Pearson-Correlation analysis performed to determine the relationships between the dependent variable (self-efficacy) and the independent variable (emotional intelligence) included in the study are presented in Table 3.

Table 2. T-Test results regarding the scores obtained from the emotional intelligence inventory according to the gender variable.

Subdimensions	Gender	N	\bar{X}	SD	f	t	sd	p
EOE1	Female	119	19.714	2.786	8.360	3.701	280	.000*
	Male	163	18.159	3.914				
EOE2	Female	119	11.126	2.516	.228	-.173	280	.863
	Male	163	11.177	2.469				
RE	Female	119	7.168	1.738	2.294	-.152	280	.879
	Male	163	7.202	1.963				
SS	Female	119	11.285	1.891	4173	.986	280	.325
	Male	163	11.012	2.555				
UE	Female	119	19.747	3.481	.068	1.302	280	.194
	Male	163	19.165	3.863				

Table 3. T-test results regarding the scores obtained from self-efficacy scale according to the gender variable.

Subdimensions	Gender	N	\bar{X}	Sd	f	t	Sd	p
Self-efficacy	Female	119	35.613	3.636	4.806	-.424	280	.672
	Male	163	35.834	4.752				

According to Table 4, a positive, low level relationship was found between self-efficacy, which is the predicted variable of the study, and EOE1 ($r = .22$; $p < 0.000$), EOE2 ($r = .178$; $p < 0.003$), RE ($r = .158$; $p < 0.000$), and SS ($r = .293$; $p < 0.000$) while a moderate positive relation was found between self-efficacy and UE ($r = .319$; $p < 0.000$).

As shown in Table 5, UE ($p = .000$) and SS ($p = .000$) variables were included in the stepwise regression

analysis process.

The analysis was completed in two steps. In the first step, the UE variable, one of the sub-dimensions of emotional intelligence, was included. It is seen that the UE variable predicted self-efficacy significantly ($p = .000$). However, it was determined that it explained about 10% of the total variance ($R = .319$, $R^2 = .102$). The standardized regression coefficient (β) of the UE variable was found to be .319.

Table 4. Pearson-correlation values between emotional intelligence and self-efficacy.

		EOE1	EOE2	RE	SS	UE
Self-efficacy	r	.222**	.178**	.158**	.293**	.319**
	p	.000	.003	.008	.000	.000

n = 282.

Table 5. Step-by-step regression analysis results related to the prediction of self-efficacy scores of emotional intelligence sub-dimensions.

Model	B	Beta	t	R	R ²	Adjusted R ²	f	p
1.Constant	28.547		21.964					
UE	.371	.319	5.635	.319	.102	.099	31.748	.000*
2.Constant	2.280		19.484	.346	.120	.114		
UE	.261	.225	3.228				18.989	.000*
SS	.307	.164	2.387					

In the second step of the analysis, the SS variable, one of the sub-dimensions of emotional intelligence, was included. It is seen that the SS variable predicted self-efficacy significantly ($p = .00$). However, in the second step of the analysis, it was determined that the SS variable explained approximately 12% of the total variance with UE ($R = .346$, $R^2 = .120$). The standardized regression coefficient (β) of the SS variable was found to be .164.

In conclusion, it can be said that as the use of emotions and social skills of athletes increase, their self-efficacy levels will also increase and that the UE and SS variables are the determinants of the level of self-efficacy.

DISCUSSION

Within the scope of the study, the effect of emotional intelligence sub-dimensions on self-efficacy was examined, and the results are discussed in the light of the relevant literature. First, emotional intelligence and self-efficacy levels of athletes were examined in terms of the gender variable.

Findings regarding the gender variable

When the emotional intelligence levels of the athletes were examined according to the gender variable, no difference was found in the sub-dimension scores of EOE2, RE, SS and UE. A significant difference was found in the EOE1 sub-dimension, and when the mean scores were analyzed, it was found that female athletes' self-efficacy level mean scores were higher than male athletes.

Based on our study findings, it is predicted that women are more understanding than men. As a matter of fact, within the scope of the literature Argyle (1994) points out that the results of their study show that women are more understanding, more empathetic and more compatible than men. Likewise, Harrod and Scheer (2005) stated in their study that women have higher levels of emotional intelligence than men. The results of these studies are in alignment with this study's results.

However, it is seen that there are studies in the literature that contradict this study's results. As a result of the study conducted by Karademir et al. (2010) and Taşkin et al. (2010), no difference was found within the groups according to the variable of gender. When the levels of self-efficacy, another concept examined within the scope of the study, were examined according to gender variable, it was found that there was no significant difference in self-efficacy scores.

When the relevant literature was examined, Cengiz et al. (2012) did not find a significant difference between gender and self-efficacy in their study conducted with a sample of taekwondo athletes, which coincides with our

research findings. In another study conducted with students, Keskin and Orgun (2006) reported that self-efficacy levels did not differ by gender.

It is seen that there are studies in the literature that do not overlap with our research findings. In the studies conducted by Şahin (2016) and Öksüz (2018), it was stated that male participants had a higher level of self-efficacy than female participants. It is thought that there are different studies examining both emotional intelligence and self-efficacy by gender, but these differences may be due to the sample group and the different measurement tools used. More studies are needed to be conducted with athletes which constitutes the sample of this study.

Results on the relationships between emotional intelligence and self-efficacy

A positive significant relationship was found between self-efficacy, which is the dependent variable of the study, and emotional intelligence sub-dimension scores.

The stepwise regression analysis was completed in two steps. In the first step of the analysis, UE variable, one of the sub-dimensions of emotional intelligence, was included. It was seen that the UE variable predicted self-efficacy significantly and it explains about 10% of the total variance. In the second step, the SS variable, one of the sub-dimensions of emotional intelligence, was included in the analysis. It was seen that the SS variable predicted self-efficacy significantly and explains about 12% of the total variance with UE.

As a result of the analysis, it can be said that as the use of emotions and social skills of athletes increase, their self-efficacy levels will increase, and that UE and SS variables are the determinants of the level of self-efficacy. Within this context, when the relevant literature was examined, a positive significant relationship was found between emotional intelligence and self-efficacy in the study conducted by Yıldız (2017) and Rastegar and Memarpour (2009).

In addition, by Black et al. (2019), the mediating effect of the concept of self-efficacy on the relationship between emotional intelligence and team compatibility was examined. As a result of the study, it was shown that self-efficacy played a mediating role in the relationship between emotional intelligence and team compatibility. In the literature, it is seen that there are many studies supporting our findings. Chan (2007), Mikolajczak and Luminet (2007), Rathi and Rastogi (2008), and Jiang (2016) state that individuals with high emotional intelligence have high self-efficacy.

CONCLUSIONS

In this respect, it is clear that when the emotional

intelligence and self-efficacy levels of the individual is are high, it will make a significant difference in achieving the goals, and additionally, they will rely more on their own abilities for sportive performance. Based on the relationship between emotional intelligence and self-efficacy obtained within the scope of the study, it can be said that the development of these two skills with the programs to be implemented both in practice and theory, and designing emotional intelligence-based self-efficacy programs will contribute to the optimal performance of athletes.

The following recommendations can be made in line with the results obtained within the scope of the study:

- The sample group in this study includes elite athletes. Future studies can be done with different sample groups.
- Examining the emotional intelligence and self-efficacy levels of athletes in terms of different variables in the data collected may provide different perspectives.

Conflicts of Interest

The authors declare that there is no conflict of interest in this manuscript.

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