Effect of emotional intelligence education on psychological well-being and aggression of athlete students at the Karadeniz Technical University

Fatih Kirkbir
Department of Sport Science, Karadeniz Technical University, Trabzon, Turkey.

ABSTRACT

Emotional intelligence involves recognizing one's emotions and using them to make appropriate decisions in life. The purpose of this study is the influence of emotional intelligence education techniques on psychological well-being and aggression of athlete students at the Karadeniz University. The research type is quasi-experimental and it is plan is pre- and post-test with the control group. The statistical population of the study includes all athlete students of the Karadeniz University in different fields of sports. By using relative random sampling among various and active sport fields, about 60 individuals were chosen among different fields (in the form of available sampling) and they were set randomly in the experimental and control groups. 16 sessions of education were used based on emotional intelligence education protocol. The protocol is taken from Bradbury and Graves program. For gathering the data, Buss and Perry aggression questionnaires and Reef psychological well-being questionnaire were used. Multivariate variance (Mancoa) was used in order to examine the hypothesis. Research results show that by using pre-test control, there are significant differences among athlete students of experimental and control groups in terms of aggression (P < 0.01) and psychological well-being (p < 0.01). As a result, it can be concluded that emotional intelligence education has a significant impact on the psychological well-being and aggression of athlete students and it causes the increasing of psychological well-being and decreasing of aggression among athlete students.

Keywords: Emotional intelligence, psychological well-being, aggression, Karadeniz University.

E-mail: fatihkirkbir@ktu.edu.tr.

INTRODUCTION

Social and emotional abilities and competencies are one of the determining and influential factors in the quality of social relationships and success in various areas of life and occupation (Mayer et al., 2000).

Theoretical origin of this type of research is the concept of emotional intelligence that was suggested by Mayer et al. (2000) describes emotional intelligence in this way: emotional intelligence is another type of intelligence. This intelligence involves recognizing one's emotions and using them to make appropriate decisions in life. It is the ability to properly manage our mood and mental state and also controlling psychological shocks. It is considered as a social skill that means dealing and getting along with others, controlling our emotions while treating others and ability to guide and encourage when we are confronting failure (Gafouri et al., 2013).

Today in the world of sports, physical and tactical abilities and specialized skills are not the only guarantee of success. Many athletes perform best in their workouts but when it comes to competing with competitors, annoying media and viewers, they face an emotional and mental pressure.

There are different emotions (including anger, fear, hope, disappointment, anxiety, humiliation feeling, pride, grief, happiness and etcetera) and they are used to express all positive and negative emotional states and physical symptoms in conjunction with them (Bernstein et al., 1997).
Most researchers, coaches and athletes have confirmed the impact of emotional state on athletic performance both before the match, during the game or after the match. Most athletes attribute their successful or unsuccessful performances to emotional factors (Hanin, 2000).

Researchers in sports psychology have also come to this conclusion that the more the athlete is capable of understanding, recognizing, managing and accurate expressing of emotions, the better mental state he would have that causes him to be more productive and also to indicate his best performance (Lane, 2006; Lane et al., 2009). Ability to understand, inference and use emotional skills varies from person to person. This set of awareness levels forms the individual’s emotional intelligence which plays an important role in individual’s performances (Mayer, 1999).

There are many different theoretical models for emotional intelligence that most of them include skills such as ability to evaluate and express emotions properly (intra personal abilities), ability to evaluate other's emotions (interpersonal abilities), ability to effectively regulate emotions and using them to guide behavior (Parker et al., 2001). Studies that examine the relationship between aggressive behavior and emotional intelligence show that emotional attention (as one of the dimensions of emotional intelligence) is positively associated with aggression and it is related to reducing anger and increasing the ability to control anger.

Maga’s research shows that there is a significant negative relationship between aggression and emotional intelligence abilities. In addition, people with high emotional clarity understand the cause and consequences of their feelings better. Eventually, people with high emotional intelligence resolve conflicts more constructively (Zeidane and Claudio) and show less aggressive behavior (Garcia-Sancho et al., 2014).

Groves et al. (2008) conducted a research on 135 undergraduate students. The research results showed 11 weeks of emotional intelligence education makes a significant difference between experimental and control groups in the component of emotional intelligence like understanding and expressing emotions, facilitating thinking, using emotions, recognizing feelings and managing them.

According to Kerr’s research report a set of pleasant and unpleasant feelings increase or decrease as athletes win or lose and these feelings have an important impact on the athlete’s performances. Therefore, it is necessary for specialists to work on such emotions (Kerr, 2005). According to Jaleel and Verghis (2017) research aggression if not controlled by the individual, can seriously harm the person and those around them. If the athlete is experiencing emotional pressure while he is not equipped with effective coping strategies and while he has little ability to understand, control and manage his emotions and those of others, he may face increasing unpleasant emotions and decreasing pleasant emotions and these consequences lead him to have low physical well-being and high aggression. After that the athlete won't be able to indicate his real performance. So, psychological well-being is seen as a reflection of mindset, emotional reactions and positive emotions toward life events (Bartram and Baniwell, 2007).

Aggression is seen as any form of physical or verbal behavior toward another potentially harmful organism, which is uncontrollable or beyond our ability to adapt (Lazarus and Folkman, 1984). Both psychological well-being and aggression are associated with emotional intelligence because of their interplay with pleasant and unpleasant emotions and also they effect on performances of the athletes in sensitive fields and the first level of world sports. Existence of such a relationship can be inferred from the results of many studies and theoretical foundations of emotional intelligence.

Arribas-Galarraga et al. (2019) came to this conclusion in their research that emotional intelligence improves the athletic performance of professional sailors. In other words, they have concluded that the higher the emotional intelligence of athletes is, the better their athletic performance will be.

Also, Maleki et al. (2012) came to this conclusion that 16 sessions of emotional intelligence education caused decreasing of aggression and increasing of psychological well-being among those whom participated in experimental group. Ramezani and Abdollahi (2006) realized that there is a significant relationship between emotional intelligence and anger management. Pasha and Golshokooh found out that emotional intelligence education reduces aggression in students with emotional and behavioral disorders.

On the other hand, several researchers have confirmed the impact of emotional intelligence on psychological well-being. Marzuki et al. (2018) in their research showed that the dimensions of emotional intelligence which include intra personal and interpersonal intelligence and adaptability are significantly correlated with psychological well-being. Akhavan Tafti and Mofradnejad (2018) came to this conclusion that there is a significant relation between emotional intelligence and psychological well-being. Ahwi et al. (2017) came to this conclusion that emotional intelligence explains and predicts 20 percent of psychological well-being changes. In general, by considering the various definitions of emotional intelligence, two theoretical strategies can be identified for emotional intelligence patterns:

The first view (Mayer and Salovey's empowerment perspective) explains emotional intelligence in this way: Emotional intelligence involves emotions and excitement and it has four components: emotional perception, using emotions to facilitate thinking, emotional understanding and managing emotions while treating yourself and others (Mayer and Salovey, 1997).

The second view defines emotional intelligence as a non-cognitive ability which is much broader than the first view. The second view includes the components of intra
personal skills (self-awareness, courage, self-esteem, self-fulfillment, independence), interpersonal skills (interpersonal relations, social commitment, sympathy), compatibility (problem solving, flexibility), controlling your stress and anxiety (ability to tolerate stress and control anxiety), general ethics (happiness and optimism) (Baron, 2000).

In the first view the infrastructural components of emotion management (controlling your and other's emotions) refer to existence of relationship between emotional intelligence and aggression (a form of excitement) and in the second view the infrastructural components of controlling stress (controlling mental stress and tolerating mental pressure) and general ethics (vitality and expressing positive emotions and having positive attitude even when there are negative and unpleasant feelings) refer to existence of a relationship between emotional intelligence with anxiety and psychological well-being.

Therefore, based on these approaches and components involved in them, it is assumed that emotional intelligence level of athletes will play a role in determining their psychological well-being and aggression. However, it should be checked. Controlling and regulating emotions through emotional intelligence education among athletes is very important and the amount of psychological variables involved with them have effect on athletes performances subsequently due to the rarity of emotional intelligence education research among athlete students, while the competitive nature of sports which includes a variable range of emotions and also positive emotional experiences lead to a better performance.

Therefore, the aim of the researchers in this research is to identify whether emotional intelligence education increases psychological well-being of the athletes and also does emotional intelligence education reduce athlete student's aggression? So in general the purpose of this research is to study the effect of emotional intelligence education techniques on psychological well-being and aggression of athlete students of Karadeniz University.

METHODOLOGY

The research type is quasi-experimental and it is process pre-and post-test with the control group. The statistical population of the study included all athlete students of Karadeniz University in different fields who had at least one first to third place in the country or they had once participated in the national team in the relevant field or in recent years they had been in competition. By using relative random sampling among various and active sport fields, about 60 individuals were chosen separately among different fields (in the form of available sampling) and they were set randomly in the experimental and control groups.

All of the participants completed the psychological well-being and aggression questionnaires respectively both before and after the main match in their relevant field. The athletes of experimental group were given emotional intelligence education for 16 sessions over two months but the control group wasn't given any special education. Finally at the end of the education both groups completed the questionnaires exactly just like they did before education. Emotional intelligence education protocol is taken from Bradbury and Graves program (Noorbakhsh et al., 2010).

To educate this program, 16 education sessions were held:

First and second sessions: Defining excitement and identifying it in life.

Third and fourth sessions: Identifying facial expressions and thoughts along with emotions.

Fifth and sixth sessions: Investigating the relationship between unconscious thoughts, emotions and behaviors through practical examples.

Seventh and eighth sessions: The way of identifying other's emotions.

Ninth and tenth sessions: Different ways of expressing emotions and the need to manage emotions in life.

Eleventh and twelfth sessions: Managing emotions 1 (includes predicting emotions and recognizing the first signs of excitement).

Thirteenth and fourteenth sessions: Managing emotions 2 (controlling emotions through changing place and position and relaxation).

Fifteenth and sixteenth sessions: Managing emotions 3 (learning the ways of problem solving and expressing and controlling emotions appropriately)

Buss and Perry's aggression questionnaires and Reef's psychological well-being questionnaire were used for gathering the data.

Buss and Perry's aggression questionnaire (1992): This questionnaire has 29 questions. It measures four aspects of aggression (physical, verbal, anger and hostility) and aggression in general. Its creators reported that the Cronbach's alpha coefficient for the components of the questionnaire is equal to 0.89 and in terms of validity; its stability correlation has been reported to be 0.80 after a nine month period. (Massoudnia, 2007)

The reliability and validity of this questionnaire was confirmed in Massoudnia's research on athletes and non-athletes and the internal coefficient of the components of this scale was reported to be 0.84. The Cronbach’ s alpha coefficient for the reliability of this program is 0.85 (Naghadi et al., 2010). Internal correlation between sub
scales was calculated with the total score for its validity. These scores were obtained for each component (physical aggression = 0.84, verbal aggression = 0.78, anger = 0.86, hostility = 0.68) (Naghadi et al., 2010). All components of this scale are graded on a five point Likert scale (very agree to very proponent).

**Reef's psychological well-being questionnaire (1994):**
This scale has 77 questions. The test has 6 sub scales that are graded on a five point Likert scale. The questionnaire has 23 questions that are scored in reverse and the sum of the components scores indicates the psychological well-being rate. In Shojaei's (2009) research the reliability coefficients of this questionnaire are 0.94 and 0.92 respectively and its validity has been confirmed (Shojaei, 2009) by using non-correlated questions with psychological well-being questionnaire. According to the nature of the research, descriptive statistics was used for describing and standard deviation and diagrams were used for classifying raw scores through the mean calculation. In the inferential statistics section, multivariate variance was used for quantifying the hypotheses and SPSS statistical package of version 22 was used for analyzing the data. The significance level of all hypotheses was considered to be 0.05.

**RESULTS**

Lane and Bass tests were used for checking the homogeneity assumption of variances before examining the research hypotheses (Table 1). Based on the obtained results, the lane significance test for the psychological well-being variable is (F = 1.71 and p = 0.201) and for aggression variable (F = 0.646 and P = 0.428), it is more than 0.05. Therefore, the homogeneity assumption of the covariance matrix is also assumed.

According to the results of Table 2, there are significant differences between two groups of athletes by using pre-test control. The level of influence is 0.75. In other words 0.75 of the individual differences in psychological well-being and aggression pre-test scores are related to influence of EQ. The statistical power is equal to one and F = 37.84, P < 0.01. To find out which variable is different between those two groups, Mancoa’s variable multivariate analysis was used that the results of which are shown in Table 3.

As shown in Table 2, there is a significant difference between athletes of experimental and control groups in terms of psychological well-being (F = 29.58, P < 0.01) and the influence level is equal to 0.53. In other words 0.53 of the individual differences in psychological well-being post-test scores is related to influence of EQ education. Also there is a significant difference between athletes of tested and controlled groups (F = 40.40, P < 0.01) and the level of influence is 60.In other words, 60 percent of the individuals differences in aggression post-test scores is related to the influence of EQ education.

Consequently EQ education techniques have an important effect on athletes’ psychological well-being and aggression that means it increases psychological well-being and decreases aggression.

**DISCUSSION AND CONCLUSION**

The research result shows the influence of EQ education on athletes’ psychological well-being. These results are consistent with the results of studies of these researchers (Marzuki et al., 2018; Akhavan Tafti and Mofradnejad, 2018; Ahwi et al., 2017; Shahani Yeylagh, 2011; Gallagher and Vella-Brodick, 2008).

Psychological well-being is a term that refers to the positive state of mind and life events such as sensitive sports competitions and these factors have an immediate impact on its rate. People’s psychological well-being is positively associated with different emotions such as hope, optimism, happiness, personal satisfaction and etc (Bartram and Boniwell, 2007). General ethic is considered as an essential component of EQ in Bar-on view, which refers to satisfaction feeling in life, feeling satisfied with yourself and others, vitality and expressing positive emotions and preserving positive attitude even while facing unpleasant feelings and events and it has to be mentioned that these factors are associated with psychological well-being (Caffo et al., 2008).

During EQ education athletes learn dealing with stress, having positive attitude toward events and increasing positive feelings instead of negative emotions. During this education, in addition to reducing aggression, athletes make a positive difference in their psychological well-being level by increasing their general ethics. Also there is a significant difference in aggression level scores among participants of experimental and control groups that indicates the influence of EQ education on reducing aggression of Karadeniz University athlete students.


These results confirm the achievements of neuro-psychology field based on the influence of EQ on aggression. In other words these results play an effective role in controlling emotions or the relation between EQ and aggression in sub-cortical areas and some parts of brain like amygdala and its connection to the frontal cortex of the brain (Ramezani and Abdollahi, 2006). Sports competitions may put athletes in situations that rules and norms can be easily violated and this may lead to violent behaviors. By the time athletes participate in EQ education and learn thinking skills before reacting and delaying destructive and immediate reactions to other's threats, managing and controlling anger will be easier.

On the other hand, the athletes will be learning
Table 1. The variables mean of psychological well-being and aggression in the groups that were studied.

<table>
<thead>
<tr>
<th>Var</th>
<th>Group</th>
<th>Time</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-being</td>
<td>Control</td>
<td>Pre</td>
<td>221.4720</td>
<td>9.55168</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>224.1990</td>
<td>7.67660</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>222.8355</td>
<td>8.62650</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>Pre</td>
<td>224.2470</td>
<td>6.73512</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>241.9530</td>
<td>10.12776</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>233.1000</td>
<td>12.34886</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>Control</td>
<td>Pre</td>
<td>222.8595</td>
<td>8.24225</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>227.9677</td>
<td>11.76091</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>Pre</td>
<td>54.2000</td>
<td>4.91644</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>57.4000</td>
<td>4.13694</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>55.8000</td>
<td>4.75177</td>
<td>30</td>
</tr>
<tr>
<td>Violence</td>
<td>Control</td>
<td>Pre</td>
<td>57.2000</td>
<td>3.02844</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>47.3333</td>
<td>3.39467</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>52.2667</td>
<td>5.93025</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>Pre</td>
<td>55.7000</td>
<td>4.29233</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post</td>
<td>52.3667</td>
<td>6.32719</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>54.0333</td>
<td>5.61767</td>
<td>60</td>
</tr>
</tbody>
</table>

Table 2. The results of multivariate variance analysis on psychological well-being and aggression pre-test scores mean (among athletes of experimental and control groups).

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
<th>Observed power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillai’s Trace</td>
<td>.752</td>
<td>37.834</td>
<td>2.000</td>
<td>25.000</td>
<td>.000</td>
<td>.752</td>
<td>1.00</td>
</tr>
<tr>
<td>Wilks’ Lambda</td>
<td>.248</td>
<td>37.834</td>
<td>2.000</td>
<td>25.000</td>
<td>.000</td>
<td>.752</td>
<td>1.00</td>
</tr>
<tr>
<td>Hotelling’s Trace</td>
<td>3.027</td>
<td>37.834</td>
<td>2.000</td>
<td>25.000</td>
<td>.000</td>
<td>.752</td>
<td>1.00</td>
</tr>
<tr>
<td>Roy’s Largest Root</td>
<td>3.027</td>
<td>37.834</td>
<td>2.000</td>
<td>25.000</td>
<td>.000</td>
<td>.752</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 3. The results of using Mancoa’s variance on psychological well-being and aggression post-test scores mean (among athletes of experimental and control groups).

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
<th>Observed power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-being</td>
<td>Pre-test</td>
<td>799.115</td>
<td>1</td>
<td>799.115</td>
<td>14.657</td>
<td>.001</td>
<td>.361</td>
<td>.958</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>1612.893</td>
<td>1</td>
<td>1612.893</td>
<td>29.583</td>
<td>.000</td>
<td>.532</td>
<td>.999</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>1417.521</td>
<td>26</td>
<td>54.520</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violence</td>
<td>Pre-test</td>
<td>1.193</td>
<td>1</td>
<td>1.193</td>
<td>.078</td>
<td>.782</td>
<td>.003</td>
<td>.058</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>618.861</td>
<td>1</td>
<td>618.861</td>
<td>40.409</td>
<td>.000</td>
<td>.608</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>398.190</td>
<td>26</td>
<td>15.315</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

constructive and correct reactions instead of overreacting and inflicting physical and psychological harm on themselves and others. As Pellitteri (2002) believes in regulating emotions, people tend to control negative
emotions internally and change their direction toward compromise by reaching the ability to review and reconstruct the intensity and direction of excitement in themselves and others and finally this reaction leads to maintaining pleasant emotions. So in general this research reinforces the hypothesis that there is a connection between emotional intelligence and aggression based on Mayer and Salovey's research.

EQ is considered as a way to increase the mental readiness of athletes and a useful method for better performance. EQ seems to be useful in important areas of sports psychology especially influencing on the readiness of champions because athletes will be able to learn ways of dealing with unpleasant emotions and increasing pleasant emotions through this education and also they will learn managing the amount of different psychological factors involved in emotions.

REFERENCES


