The Relationship between Anxiety,
Emotional Intelligence and Self-Efficacy among Olympiad Students
In Iran in the School Year 2015-2016

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Abstract

The present study was carried out to determine the relationship between anxiety, emotional intelligence and self-efficacy among Olympiad students in the educational year 2015-2016. The study used a descriptive- survey research design. The population included 380 Olympiad male students from middle schools in Iran in the educational year 2015-2016. 181 students were selected based on Morgan's table. The instruments included Beck Anxiety Inventory (BAI), Trait Meta-Mood Scale (TMMS), and a self-efficacy questionnaire. The findings showed that there is no significant relationship between anxiety and emotional intelligence and its components including emotional clarity, emotional attention, and emotional repair. However, anxiety was negatively and significantly related to self-efficacy and predicted it. The findings of the study yield useful and applicatory information although further research particularly of a qualitative type is necessary to explain the relationship between constructs.

Keywords: Anxiety, Emotional intelligence, Self-efficacy

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Introduction

Anxiety is "a state of intense apprehension, uncertainty, and fear resulting from the anticipation of a threatening event or situation, often to a degree that normal physical and psychological functioning is disrupted" (American Heritage Medical, 2007, p. 38). Each year, Anxiety Disorders impact approximately 18%, or 40 million, adults in the United States (NIMH, 2013). Close to 50% of individuals diagnosed with an Anxiety Disorder also meet the criteria for a Depressive Disorder (Batelaan, De Graaaf, Van Balkom, Vollebergh, & Beekman, 2012). Physiological symptoms like muscle tension, heart palpitations, sweating, dizziness, or shortness of breath and emotional symptoms such as restlessness, a sense of impending doom, fear of dying, fear of embarrassment or humiliation, or fear of something terrible happening are usually evident in those with an anxiety disorder. For example, Generalized Anxiety Disorder (GAD) is one of the most common of all mental disorders with an annual prevalence rate of 2.9% among adults in the U.S. Excessive worry or anxiety about a number of events is the key feature of GAD with the experience of the anxiety or worry in discord with the actual or expected event. The individual experiences at least three characteristic symptoms including restlessness or feeling keyed up or on edge, being easily fatigued, difficulty concentrating or mind going blank, irritability, muscle tension, and sleep disturbance (APA, 2013). Therefore, those with anxiety disorders are usually not able to control their emotions, react negatively to emotional stimuli, and experience severe feelings (Fresco et al, 2003). This poses an important question as to how much anxiety really contributes to an individuals' lack of emotion regulation. To answer the question, a brief discussion of emotional intelligence (EQ) is needed.

EI is the person's ability to sustain motivation, persist in difficulties, control impulses, delay gratification, regulate one's own psychological manners, empathize with others, and to be hopeful (Goleman, 1995). In addition, Salovey and Mayer (1990, cited in Goleman, 1995) consider EI as a subarea of social intelligence and define it as one's ability to monitor his/her own feelings and emotions as well as those of others, distinguish between these emotions, and use this information to direct his/her own thoughts and behaviors. This process of self-regulating one's own emotions draws on a key component called as self-efficacy.

Self-efficacy is a factor influencing individuals' functioning and is one of the important constructs in Bandura's social-cognitive theory which refers to one's belief and confidence in one's own ability to control thoughts, feelings, and actions as well as to function efficiently in stressful situations. Therefore, self-efficacy affects real performance, emotions, control of influential occurrences, organization and enactment of actions needed to achieve desirable performance levels, and the degree of one's effort expenditure while doing an activity (Capra et al, 2002). Those with higher self-efficacy take into account more and wider working possibilities, are more successful in their job, achieve higher grades at the university, choose superior personal goals, and benefit from healthier mental and physical conditions (Bandura, 1992). On the other hand, those with low self-efficacy feel that they are not able enough to control life happenings and in facing obstacles, they will become frustrated immediately if their first efforts do not lead to desired results (Bandura, 1992; Bisschop et al, 2004; Fritzscher & Parrish, 2005). Now, given a brief discussion of anxiety as well as two important psychological constructs relating to it (EQ and self-efficacy), the question is whether there is a significant relationship between the variables. Further, if the relationship exists, is there any predictive role for anxiety contributing to one's self-efficacy and EQ. The present study, therefore, is going to determine the relationship between anxiety, EQ and self-efficacy. In the following sections, methodology of the study and the results are given as well as a part concluding the research findings.

Methodology

The present study is a descriptive and correlational research determining the relationship between three variables anxiety, EQ, and self-efficacy. The population included all middle school Olympiad male students in Iran (n= 380) during the educational year 2015- 2016. According to Morgan's table, 181 participants were selected as the sample. Beck Anxiety Inventory (BAI), Trait Meta-Mood Scale (TMMS), and self-efficacy questionnaire were used to measure participants' anxiety, EQ, and self-efficacy, respectively. The reliability and validity of all three questionnaires were confirmed. To analyze the data, Pearson correlation coefficient, regression, correlation matrix, one-way variance, Levine test, and F- test were used.

Results and Discussion

Pearson correlation coefficient, regression, correlation matrix, one-way variance, Levine test and F-test were used to test the hypotheses. Applying the statistical methods and analyses, the following results were achieved.
Hypothesis 1: There is no significant relationship between anxiety and emotional intelligence.
Pearson correlation coefficient test was used to test the hypothesis. The following table shows the results.

Table 1: Correlation coefficient between anxiety and emotional intelligence

Variable	No.	mean	Standard deviation	Correlation coefficient	Sig. level
Anxiety	181	10.607735	12.690580	-0.053086	0.477856
Emotional Intelligence	181	94.679558	16.276332		

As evident in Table 1, correlation coefficient between anxiety and emotional intelligence is -0.0531 which is not significant at the level of 0.478. Therefore, the hypothesis that there is no relationship between anxiety and emotional intelligence is confirmed.

Table 2: Correlation matrix of the relationship between anxiety, emotional intelligence and its components and self-efficacy

Variable	(1)	(2)	(3)	(4)	(5)	(6)
1. Anxiety	1					
2. Emotional Attention	-0.109	1				
3. Emotional Clarity	-0.106	0.265**	1			
4. Emotional Repair	0.044	0.121	0.566**	1		
5. EQ	-0.053	0.657**	0.802**	0.764**	1	
6. Self-efficacy	-0.295**	0.199**	0.381**	0.390**	0.371**	1

Table 2 shows the correlation matrix between the variables studied indicating the correlation coefficients among them. A significant relationship is shown by (**). According to this table, there is a significant relationship between self-efficacy and emotional intelligence and all of its components as well as anxiety.
One-way variance
Grouping Olympiad students according to the Beck's anxiety test is as follows:

Table 3: Anxiety groups and their frequency

Anxiety level	score	No.
None/ the Least	0-7	105
Weak	8-15	27
Moderate	16-25	24
Strong	26-63	24

One-way analysis of variance was used to test this hypothesis. Given the Levine test and the significance level (0.132), the variances homogeneity assumption is accepted.

Table 4: One-way variance analysis between anxiety groups and emotional intelligence

Change sources	Sum of Squares	Df	Mean of Squares	F	Sig. Level
Inter-groups	1160.327100	3	386.775700		
Intra-groups	46525.087264	177	262.853600	1.471449	0.223952
Total	47685.414365	180			

Given the measured F (=1.471) and significance level (=0.224), anxiety difference is not significant in students' emotional intelligence. Therefore, anxiety does not affect their emotional intelligence.
Given the Levine test and the significance level (=0.064), homogeneity assumption between anxiety groups and emotional clarity is rejected.

Table 5: One way analysis of variance between anxiety and emotional clarity

Change sources	Sum of Squares	Df	Mean of Squares	F	Sig. Level
Inter-groups	377.894	3	125.965		
Intra-groups	6491.634	176	36.884	3.415	0.019
Total	6869.528	179			

Given the measured F (=3.415) and the significance level (=0.019), the difference between anxiety groups is significant in emotional clarity. As a result, anxiety is effective in emotional clarity.
Given the Levine test and the significance level (=0.944), homogeneity assumption between anxiety groups and emotional attention is accepted.

Table 6: One way analysis of variance between anxiety and emotional clarity

Change sources	Sum of Squares	Df	Mean of Squares	F	Sig. Level
Inter-groups	221.367	3	73.789		
Intra-groups	9379.583	176	53.293	1.385	0.249
Total	9600.950	179			

Given the measures F (=1.385) and the significance level (=0.249), the difference between anxiety groups is not significant in emotional attention. Therefore, anxiety is not effective in emotional attention.
Given the Levine test and the significance level (= 0.561), homogeneity assumption between anxiety groups and emotional repair is accepted.

Table 7: One way variance analysis between anxiety and emotional repair

Change sources	Sum of Squares	Df	Mean of Squares	F	Sig. Level
Inter-groups	99.184	3	33.061		
Intra-groups	8526.727	176	48.447	0.682	0.564
Total	8625.911	179			

Given the measures F (=0.682) and the significance level (=0.564), the difference between anxiety groups is not significant in emotional repair. Therefore, anxiety groups are not effective in emotional repair. Linear regression:

Table 8: Regression between anxiety and emotional intelligence

model	R	R^2	Corrected R^2	Estimated Standard Error
1	0.053086	0.002818	-0.002753	16.29872

Table 9: Regression significance test

model		Sum of Squares	Df	Mean of Squares	F	Sig. Level
	Regression	134.384576	1	134.384576		
1	Remain	47551.029789	179	265.648211	0.505874	0.477856
	Total	47685.414365	180			

Using F-test showed that the significance level for this coefficient is 0.478 that means there is no significant relationship between anxiety and emotional intelligence among students.
Hypothesis 2: There is no significant relationship between anxiety and self-efficacy among middle school Olympiad students.
Pearson correlation coefficient was used to test this hypothesis. The results are shown in the following table.

Table 10: Correlation coefficient between anxiety and self-efficacy

variable	No.	Mean	Standard Deviation	Correlation Coefficient	Sig. Level
Anxiety	183	10.497268	12.664684	-0.294910	0.000051
Self-efficacy	183	60.081967	9.687925		

As shown in the above table, correlation coefficient between anxiety and self-efficacy is -0.2949 which is significant at the level of 0.00005. Therefore, there is a negative and significant relationship between anxiety and self-efficacy.
One-way variance:
One way analysis of variance was used to test the hypothesis. Given the Levine test and the significance level (=0.035), variances of homogeneity is not confirmed.

Table 11: One way analysis of variance between anxiety groups and self-efficacy

Change sources	Sum of Squares	Df	Mean of Squares	F	Sig. Level
Inter-groups	1787.469566	3	595.823189		
Intra-groups	15294.300926	179	85.443022	6.973339	0.000183
Total	17081.770492	182			

Given the measured F (=6.973) and the significance level (=0.0001), a significant difference exists, showing anxiety is effective in the participants' self-efficacy.

Linear regression

Table 12: Regression between anxiety and self-efficacy

model	R	R^2	Corrected R^2	Estimated standard deviation
1	0.294910	0.086972	0.081928	9.28259

Table 13: Regression significance test

model		Sum of Squares	Df	Mean of Squares	F	Sig. Level
	Regression	1485.634554	1	1485.634554		
1	Remain	15596.135938	181	86.166497	17.241441	0.000051
	Total	17081.770492	182			

Using F-test showed that the significance level for this coefficient is 0.000051. R^2 is also 0.0870 that is anxiety explains about 8.70 percent of changes in self-efficacy.

Multiple regression

Table 14: Regression between anxiety and self-efficacy and emotional intelligence components

model	R	R^2	Corrected R^2	Estimated Standard Error
1	0.342	0.117	0.097	12.07580

Table 15: Regression significance level

model		Sum of Squares	Df	Mean of Squares	F	Sig. Level
	Regression	3376.950	4	844.238		
1	Remain	25519.378	175	145.825	5.789	0.000213
	Total	28896.328	179			

Using F-test showed that the significance level for this coefficient is 0.000213. R^2 is also 0.117 which shows that anxiety explains about 11.70 percent of changes in self-efficacy and emotional intelligence.

Conclusion

The present study tried to determine the relationship between anxiety and emotional intelligence and its components. Also the relationship between anxiety and self-efficacy was a concern here. Drawing on the

data gathered from the research sample, a comprehensive analysis was done using Pearson correlation coefficient test, regression analysis, correlation matrix, Levine test, and F- test. The results of the study showed that there is no significant relationship between anxiety and emotional intelligence. That is by any change in individuals' anxiety level, change cannot be expected to be seen in their emotional intelligence directly. Also, the results showed no significant relationship between anxiety and EQ components including emotional clarity, emotional attention, and emotional repair although the significant relationship between these components and between the components and EQ were confirmed. On the other hand, self-efficacy as an important factor in people's functioning was surveyed to see if it correlates with anxiety. The analysis of the data showed that there is a significant and negative relationship between anxiety and self-efficacy that is by an increase in anxiety, the individuals' self- efficacy may decrease and by a decrease in their anxiety level, their self- efficacy would increase. In addition, regression analysis showed that anxiety predicted self-efficacy among participants which itself indicates the more important role of anxiety in determining one's self-efficacy. The findings of the study yields important and practical information. However, further research needs to be conducted especially to explore the relationship between anxiety and EQ more deeply. In this regard, qualitative research methods can be very helpful in explaining the findings and expanding the knowledge of the relationship between such important psychological constructs.

Acknowledgement

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