RESEARCH ARTICLE

PREDICTING EMOTIONAL INTELLIGENCE AND SELF-EFFICACY BASED ON RESILIENCE AMONG OLYMPIAD HIGH SCHOOL STUDENTS, IRAN

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ARTICLE INFO	ABSTRACT
	The aim of the study is to investigate the relationship between emotional intelligence and self-efficacy and resilience among Olympiad students in Iran. The study is a correlation research. The population consisted of Olympiad high school students of which 172 students (male and female) were selected through census sampling. Sherer self-efficacy questionnaire (1376) and Connor and Davidson resilience scale (2003) and Trait Meta-Mood Scale (Salovy *et al.,* 1995) were used to collect information. To analyze the data, the mean and standard deviation were used as descriptive statistics and Pearson correlation and regression analysis were used as inferential statistics. The results showed that there are positive and significant relationships between emotional intelligence and resilience and also between self-efficacy and resilience among the Olympiad students.

INTRODUCTION

Many experts confirm that the twenty-first century is the century of knowledge. Scientific progress is obviously one of the main country's development indicators in such a time. Science Olympiads as a student movement are held in many countries around the world. The purpose of the science Olympiads is identifying, attracting, training, supporting and guiding the talent students (Banayii Esfahani, 1391). In education systems, the rate of students' academic achievement is the achievement indicator in scientific activities and school. Cognitive intelligence is one of the most important factors in determining academic success which is measured by the intelligence. Intelligence as a fundamental characteristic that causes human individual differences has been attended to since the beginning of the recorded history of human life. But since the beginning of the studies on intelligence, cognitive aspects such as memory, problem solving and thinking have been emphasized, while today, not only the non-cognitive aspects but also it has been concerned in predicting the individual's ability to achieve success and harmony in life (Wong and Law, 2003). Research shows that IQ predicts life progress a little (Poon Teng Fatt, 2002, cited in Golestan Jahromi, 1384). In recent years, many psychologists have found that intelligence includes a limited range of verbal and mathematical skills. They have tried to redefine the concept of intelligence and

have raised the fundamental role of emotional intelligence (Parsa, 1380). Emotional intelligence is a something inside each of us that is somewhat subtle. Emotional intelligence determines how we handle our behavior, how to deal with the social problems and how make decisions that will lead to positive results (Beradbery and Garyoz, 1384). Theorists of emotional intelligence believe that there is a positive relationship between emotional intelligence and the strength to deal with risky situation and resilience (Salloway, Badl, Ditouyler, Mayer, 2000), and the high level of emotional intelligence was raised as a protective factor. Most researchers agree that resilient persons have the same factors in common. Some of the common factors are: higher intelligence, lower innovativeness, lower belonging to delinquent peers, lack of substance abuse and delinquency. Researchers have explored other common features that include: higher self-efficacy, autonomy, empathy (emotional intelligence), wok commitment, seriousness, problem-solving skills and having good relationship with peers (Kroger and Green; quotes Isaacson, 2002). Among the issues concerning the affective factors on resiliency is the role of intelligence in resiliency. The main question is 'whether the resilient person is necessarily smarter?'' some of the findings have suggested that intelligence is a determining factor in resilience (Kampfer, 1999) and some confirm the opposite opinion (Feraybourg *et al.,* 2005). Jowkar's results (2008) showed that resilience has a mediating role between various kinds of intelligence and life satisfaction. In a study entitled "Effect of emotional intelligence training on techniques to deal with stress among

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female high school students in Ahvaz, the researchers showed that emotional intelligence training is effective on methods of dealing with stress among female students in high school in Ahvaz (Hoveyzavi and Enayati, 1390). Self-efficacy is one of the important concepts in Bandura social cognitive theory. In this theory, the cognitive processes have a decisive role in human behavior. Faulty cognitive processes lead to false expectations and perceptions of their individual performance and can lead to anxiety and avoiding challenging situations. Self-efficacy in Bandura's theory means people's judgment about their own ability to organize and execute a series of tasks to achieve sets of functions (Ashoori, 1393). Educational psychologists and other education experts have focused on self-efficacy and their affecting factors for many years. Among the various aspects of self-efficacy, academic self-efficacy which affects various aspects of life accompanied by effort and persistence in carrying out the task, the use of cognitive and metacognitive strategies, self-regulation, resilience in the face of difficulties, the selection of field and so on, is an important variable (Karimzadeh and Mohseni, 1385; Narimani, Khoshnodiniya, Zahed and Abolghasemi, 1392).Among the factors that attracted less attention (Prince-Amboor i& Saclofski, 2013) are personality variables including resilience and spiritual intelligence. Later, these two concepts have been studied as efficacy predictors. Resilience has a special place in psychological research, especially in the health psychology, family psychology, developmental psychology and mental health as the number of relevant research on these constructs increases each day (Kambel, Silz, Kohen & Stein, 2006). In the field of education and learning, resilience will occur when students face with life threatening conditions, failure to perform academic tasks (Mikaili, Ganji and Talebi Joybari, 1391). To deal successfully with these types of stressful situations, students require resiliency that protects their self-esteem and mental health against the problem.

METHODS

The method of this study is correlational.

Population, sample and sampling: the population consisted of Olympiad high school students in Iran. 172 students (male and female) were selected using census sampling method. The following instruments were used to collect the required data:

A) **Sherrer General Self-Efficacy Scale:** this scale has 17 questions, each question regulated based on the Likert scale ranging from strongly disagree to strongly agree. The maximum score that a person can obtain from this scale is 85 and a minimum score is 17. Bakhtiyari Barati (1376) correlated obtained scores from the scale with the size of several character traits (Rutter internal and external control analogy, personal control subscale, Maslow and Carron social scale and Rosenberg merit scale) to determine the validity of self-efficacy scale.Also, the reliability of the test was 76% using Guttman's scale and 79% using Cronbach's alpha coefficient (Shamaiizadeh and Abedi, 2005).

B) **Connor and Davidson Resilience Scale**: this scale has 25 items with five –option Liker scale (never, rarely, sometimes, often and always). Mohammadi (1384) investigated the psychometric properties of this instrument and prepared it to be used in Iran. In his study, the reliability coefficient was achieved 87% using Cronbach's alpha. Cronbach's alpha coefficient in the present studywas82%.

C) **Trait Meta-Mood Scale (TMMS)**: the questionnaire was designed by Salovy *et al.,* (1995). It has 48 items on three components including concern for feelings, feelings clarity, and mood change. The questionnaire uses a five-option Likert scale (strongly agree to strongly disagree). Cronbach alpha was reported 0.88, 0.86, and 0.82 for each component respectively by Salovy *et al.,* the reported measures in Iran was 0.72, 0.62, and 0.65, respectively.

RESULTS

Pearson correlation and linear regression were used to predict emotional intelligence and self-efficacy of Olympiad high school students. The first criterion variable represents a significant effect of resilience on emotional intelligence. As it can be seen, the correlation coefficient between resilience and emotional intelligence is about 0.317. This coefficient is significant at the level of 0.00002.This means that there is a direct and positive relationship between resilience and emotional intelligence.

Table 1. The correlation coefficient between resilience and emotional intelligence

Variable	Number	Mean	Standard deviation	Correlation Coefficient	Significance Level
Resilience	172	534884.61	177912.17	316936.0	0.000023
Emotional intelligence	172	825521.94	609510.16		

Table 2. The regression between resilience and emotional intelligence among the students

Model	R	R^2	R^2 corrected	Standard Error of Estimate
1	0.316936	0.100449	0.095157	15.799503

Table 3. The correlation coefficient between resilience and self-efficacy

Variable	Number	Mean	Standard deviation	Correlation Coefficient	Significance Level
Resilience	174	61.672414	17.344241	0.478768	0.00000
Self-efficacy	174	60.137931	9.78900		

Table 4. The regression between resilience and emotional intelligence among the students

Model	R	R^2	R^2 corrected	Standard Error of Estimate
1	0.478866	0.229219	0.224737	8.619909

Using F test revealed that the significance level of this factor is 0.00002, which represents the significant relationship between resilience and emotional intelligence. R or determination coefficient is about 0.100. This means that the resilience explains about 10% of change in emotional intelligence and the rest was related to other factors that are not calculated here. Using F test revealed that the significance level of this factor is 0.00000, which represents the significant relationship between resilience and self-efficacy. R or determination coefficient is about 0.2292. This means that the resilience explains about 22.92of change in self-efficacy and the rest was related to other factors that are not calculated here.

DISCUSSION AND CONCLUSION

The aim of this study was to predict emotional intelligence and self-efficacy based on resilience. The results showed that resilience can predict emotional intelligence positively and significantly. These results are consistent with the results of Jowkar (2008) that considered the mediating role of resilience in the relationship between emotional intelligence and general intelligence and life satisfaction. The results showed that the resilience has a mediating role between various types of intelligent and life satisfaction. Moreover, this role was stronger about for emotional intelligence. Also, the results entitled "The relationship between emotional intelligence and resilience among the students of University of Social Welfare and Rehabilitation Science" showed that the higher emotional intelligence may cause more resiliency against unsafe conditions (Khodajavadi, Poru, 1387). On other hand, this is consistent with the study of Ii au *et al.* (2003), Zarean, Asadzadeh and Bakhshipour (1386), Sayarochi *et al.* (2002), Gohem (2003), Trinidad and Johnson (2002), Angerberg and Sejoberg (2004) which used the related scales of mental health and mental disorders or risky behaviors. The results can be justifiedbased on the common factors that were found in previous research. Salovy, Estrod, Wolri and Aypel (2002) showed that emotional intelligence predicts passive coping skills negatively and active coping skills positively. Mohammadi (1384) showed that the coping skills are effective in resiliency. So, we can say that emotional intelligence is associated with active coping skills and through which resilience and emotional intelligence are related to each other. Sayo (2009) studied the relationship between emotional intelligence and intrinsic and extrinsic behavioral problems among the teenagers and concluded that low emotional intelligence leads to behavioral problems such as depression and higher self-control reduces anxiety and aggressiveness and increases resilience. Also, the results showed that resilience can predict self-efficacy. Results of the studies on the relationship between emotional intelligence and self-efficacy and mental health and comparing them among the ordinary and top students showed that there are significant differences between emotional intelligence and self-efficacy and mental health among the top and ordinary students (Amini, Narimani, 1388).

Ashoori (1393) showed that there are positive and significant relationship between self-efficacy (r: 21%), critical thinking (r: 17%), administrative thinking (r: 37%), emotional intelligence (r: 21%) and academic achievement. The results showed that self-efficacy predicts resilience positively and significantly. These findings are consistent with existing theories and earlier research. Many studies have found that people with higher self-efficacy expectations look for proper solutions to problems and issues more than those with lower self-efficacy expectations. People with high self-efficacy beliefs avoid self-degrading attributions and experience less anxiety and depression. One of the factors that can be deducted from the relationship between self-efficacy and resilience is the relationship between these two factors and coping strategies. Research has shown that higher self-efficacy is associated with more coping power to deal with risky behavior (Ma *et al.,* 2006). The relationship between self-efficacy and resiliency is important since it shapes the individual's belief about his ability, knowledge, attitude, behavior and individual performance in order to use all the capacities for resilience in difficult situations. Also, it can be said that the students who has not essential skills such as resilience, strategies to cope with stress, and happiness cannot communicate and have sympathy with friends, teachers, and at school (emotional intelligence) and as a result of his lack of sufficient experience, he has a negative image of his ability and talent and it would reduce his self-esteem and ultimately face him with serious damages.

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