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## **Study the Relationship between Emotional Intelligence and Academic Achievement of School Students (Case study: third grade female high school students in Bandar Abbas)**

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**Abstract** The objective of this study is to examine the relationship between emotional intelligence and Mathematic success of students. This research is descriptive with the use of correlation . The sample volume is 304 people, according to the kokaran formula. The samples were chosen by stratified random sampling among the third grade female high school students and their teachers in Bandar Abbas. Tools of this study are Bar-On emotional intelligence test and Mathematics grade in the second semester of 2014-2015 academic years. Mathematic score was used as the students' academic success index in Mathematics. The survey's information was analyzed in two levels of descriptive and inferential statistics via SPSS software. The results of the research showed that there is a meaningful and straight relationship between students' emotional intelligence and mathematic success. Also, there is a meaningful and straight relationship between teachers' emotional intelligence and students' mathematic success. There is a meaningful and straight relationship between teachers and students 'emotional intelligence, but the relationship is not so strong. The academic achievement of students with diploma and lower mothers is less than the academic achievement of students with upper diploma mothers. The emotional intelligence of students with diploma and lower mothers is less than the emotional intelligence of students with upper diploma mothers. Father' education does not have any role in the academic achievement and emotional intelligence of students.

**Keywords:** student's emotional intelligence, teacher's emotional intelligence, mathematic academic achievement, mother's education, father's education

### **Introduction**

For many years, researchers, education and training surveyors and social psychologist did a lot of researches about the effective factors on students' academic achievements such as: learner, instructor, and family, education level of parents, life environment, school and educational programs. Since the educational achievement is a subject that many countries pay attention to it especially in recent years. And a lot of societies' budget is spent on the education of children and teenagers. Many researchers have shown that, although mental and cognitive ability predict an academic success, they are not the only key to the success (Kadivar et al., 2012).

One of the strong predictors of academic achievement is emotional intelligence as non-cognitive abilities and skills (Momeni Mehmuee et al., 2012).

The concept of emotional intelligence is not a new subject. Howard Gardner in the *Frame of mind* (1983) entitled it as interpersonal and intrapersonal intelligences from the viewpoint of multiple intelligences. The subject of emotional intelligence was mentioned by Salovey and Mayer in 1990 for the first time. Later, Goleman used their research result and introduced emotional intelligence term in his best-selling book in 1995. He wrote the self-awareness and

social growth for Yenohan School in this case. According to the Goleman(1995), people should develop emotional intelligence component in themselves to overcome challenges. These components include: self-awareness, self-control or self-management, empathy, social skills and self-motivation.

Azad (2012) did a survey entitled as the study of the effect of parents' literacy level on students' academic achievement. The results showed that parents' education lead to an increase in academic performance. In a survey entitled as the relationship between emotional intelligence and academic achievement, Zoghi (2005) showed that emotional intelligence have a straight relationship with academic achievement. Increase in emotional intelligence lead to mental health and academic achievement.

In a study entitled as an emotional intelligence and academic development, Parkru et al (2004) studied the relationship between academic achievement and emotional intelligence. The results showed that there is a strong relationship between the dimensions of emotional intelligence and academic achievement.

In a study entitled as the role of emotional intelligence feature in the academic performance and deviant behavior in school, Petridz et al (2004) realized that emotional intelligence modifies the relationship between cognitive ability and academic performance, and is effective in the deviant behavior of weak or vulnerable teenagers. In a study, Elyas et al (2003) realized that emotional skills can have long-term effects on academic achievement.

### **Methodology**

Descriptive correlation research method is used in the present research based on issue, goal, hypothesis and the related information. Descriptive research is the collection of methods with the goal of describing the circumstance or the studied phenomenon. Correlation research is the subset of non-experimental descriptive studies, and the goal is to determine the changes of correlation of two variables from its purposes.

### **Statistical population and statistical samples (participants)**

The statistical population of this research is all of the teachers and female students of third grade high school in Bandar Abbas in 2014-2015 academic years. The numbers of participants were 1524 people. The number of samples was determined based on the number of students and based on Kokaran formula as 304 people who were chosen by stratified random sampling.

### **Instrumentation:**

In this study, the scale of Bar-On emotional intelligence questionnaire was used to measure the teachers and students' emotional intelligence. Because the options are regulated on the Likert's five degree spectrum, the grading is done from 5 to 1 (absolutely agree point 5 and absolutely disagree point 1) and in some questions with negative or reverse content, grading is done from 1 to 5 (absolutely agree point 1 and absolutely disagree point 5). Total score of each scale is equal to the summation of scores of each one of the scale's questions and the total score of the test is equal to the summation of the scores of 15 scales. So, the students and teachers who have a higher grade have a higher emotional intelligence, and vice versa.

The Mathematic grades of female high school students in the second semester of 2014-2015 academic years in Bandar Abbas were used to measure the success in Mathematic. Psychometric properties of this questionnaire have been studied in Iran. The quantity of cornbach alpha is 0.899 in the present study, and because this number is bigger than 0.7, it is been argued that the

questionnaire has a very good reliability.

The validity of this questionnaire is calculated by the exploratory factor analysis method in Dehshiri study (2002). 8 factors had validity for Iranian subjects from the 13 factors of the structural factors of North American sample (Bar-on, 1979). Also, there is a meaningful and straight relationship between the samples' average of each one of subscales and total score's average of the questionnaire. It means that all subscales of questionnaire have relationship with the emotional intelligence variable.

### Collecting Data Method

The information is obtained from library method through the survey and study books, scientific articles, thesis and etc. and also, by the field method through distributing and collecting questionnaire. Collecting the second semester's Mathematic grade of every student was done with the cooperation of high schools' box office as the achievement index of school students in Mathematic.

### Results

The findings were described by using appropriate diagram, frequency tables, central indexes and distribution and finally researches hypothesis were studied by using Pierson' correlation. The relationship between research variables and related aspects were also analyzed.

**Describe the variables status:** Average of students' Mathematic success grade, according to the education of upper diploma mothers, is more than the diploma and lower diploma mothers. Also, the average of students' Mathematic success grade, according to the education of upper diploma father is less than diploma and lower diploma father.

Average of students' emotional intelligence grade according to the upper diploma mother is more than diploma and lower diploma mother. Also, the average of students' emotional intelligence grade according to the education of upper diploma father is less than diploma and lower diploma father.

**Table 1.** Descriptive analysis, central indexes and the distribution of research variables

Index variable	Students' emotional intelligence	Teachers' emotional intelligence	Mathematic success
<b>Average</b>	312.04	313.50	16.68
<b>Median</b>	314.00	316.00	16.71
<b>Mode</b>	350.00	302.00	19.75
<b>Standard deviation</b>	39.04	40.59	1.95
<b>Elongation</b>	-0.23	-0.47	-0.24
<b>climax</b>	-0.51	-0.11	-0.67
<b>Minimum</b>	198.00	198.00	10.87
<b>Maximum</b>	414.00	393.00	19.98

**Table 2.** Descriptive analysis and statistical index of Mathematic success based on parent’s education

Index	Mathematic success according to the Mother’ education		Mathematic success according to the father’ education	
	Diploma and lower diploma	Upper diploma	Diploma and lower diploma	Upper diploma
<b>Average</b>	15.96	17.28	16.90	16.59
<b>Median</b>	15.74	17.40	17.02	16.52
<b>Mode</b>	14.42	19.75	19.75	19.75
<b>Standard deviation</b>	1.97	1.77	1.95	1.98
<b>Minimum</b>	10.87	12.52	10.87	11.40
<b>Maximum</b>	19.96	19.98	19.96	19.98

**Table 3.** Descriptive analysis and statistical indexes of emotional intelligence among students according to the parents’ education

Index	Emotional intelligence according to the mother’ education		Emotional intelligence according to the father’ education	
	Diploma and lower diploma	Upper diploma	Diploma and lower diploma	Upper diploma
<b>Average</b>	259.09	326.84	316.17	311.34
<b>Median</b>	258.50	334.00	320.00	311.00
<b>mode</b>	350.00	334.00	302.00	350.00
<b>Standard Deviation</b>	37.47	33.97	37.40	39.61
<b>Minimum</b>	198.00	260.00	198.00	211.00
<b>Maximum</b>	358.00	414.00	414.00	396.00

### Research hypothesis examination

**Table 4.** the results of Bar-On emotional intelligence questionnaire component scores of Normal survey

Index	Intrapersonal component	Interpersonal component	compatibility component	Stress management component	General creation component
<b>Sig</b>	3.02	3.9	3.3	3.1	4.8
<b>Sig.</b>	0.00	0.00	0.00	0.00	0.00

**Table 5.** The results of the research variable Normal survey

Index	Students’ emotional intelligence	Teachers’ emotional intelligence	Mathematic grade
<b>Sig</b>	0.89	0.11	0.43

Klomogroph-Smironoph test is used to examine the normality of data. The values obtained for all the three variables are bigger than 0.05, so the result is that data are normal. Parametric test is used for analyzing because of the normality of the data.

**Table 6.** Pierson correlation scale and significance level between variables

Variable		Teachers' emotional intelligence	Students' emotional intelligence	Mathematic success
<b>Students' emotional intelligence</b>	Pierson correlation	0.397	1	0.828
	P-value	0.00	-	0.00
	Number	304	304	304
<b>Teachers' emotional intelligence</b>	Pierson correlation	1	0.397	0.834
	P-value	-	0.00	0.00
	Number	304	304	304
<b>Mathematic success</b>	Pierson correlation	0.834	0.828	1
	P-value	0.00	0.00	-
	Number	304	304	304

Pierson correlation test is used to examine the hypothesis. Consider that obtained *P-value* (0.00) is less than significance level (0.05) we can claim that: there is a meaningful and linear relationship between school students' emotional intelligence and Mathematic success. There is a significant and linear relationship between teachers' emotional intelligence and school students' Mathematic success since the P-value (0.00) is less than the level of significance (0.05). And zero hypothesis is rejected and there is a magnificent and linear relationship between teachers and students' emotional intelligence since the P-value (0.00) is less than the level of significance (0.05).

**Table7.** T-independent test to compare the amount of students' emotional intelligence according to the mother' education

Variables		Levin test for the equality of variances		Averages equality test						
		F	P-value	t	degree of Freedom	P-value	Average differences	Average differences and Standard deviation	95% confidential interval	
									Upper bound	Lower bound
<b>Emotional intelligence among students</b>	Variances equality hypothesis	2.13	0.145	-8.12	302	0.00	-33.02	4.06	-25.02	-41.02
	Variances non-equality hypothesis			-8.09	293	0.00	-33.02	4.07	-25.001	-41.05

According to the table 7, *P-value* of variances equality test is bigger than 0.05. Therefore, the variances equality hypothesis of two groups of diploma and lower diploma and upper diploma is approved. The average difference of emotional intelligence grade among the school students of two groups is obtained -33.02 and the standard deviation is obtained 4.06. The *P-value* is obtained 0.00. The zero hypothesis can be rejected because the P-value is smaller than 0.05. The result is that there is a significant relationship between the emotional intelligence of the two groups of school students. Therefore, the research hypothesis is approved and the emotional intelligence amount among the school students with upper diploma mothers is more than diploma and lower diploma mothers.

**Table8.** T-independent test to compare the amount of students' emotional intelligence according to the father' education

Variables		Levin test for the equality of variances		Averages equality test						
		F	P-value	t	degree of Freedom	P-value	Average differences	Average differences and Standard deviation	95% confidential interval	
									Upper bound	Lower bound
<b>Emotional intelligence among students</b>	Variances equality hypothesis	1.03	0.309	1.74	302	0.082	7.8	4.47	16.6	-0.99
	Variances non-equality hypothesis			1.75	301	0.81	7.8	4.45	16.5	-0.96

According to the table 8, *P-value* of variances equality test is bigger than 0.05. So, the variances equality hypothesis of two groups of diploma and lower diploma and upper diploma is approved. The average difference of emotional intelligence grade among the school students of the two groups is obtained 7.8, the standard deviation is obtained 4.47 and the *P-value* is obtained 0.08. The zero hypothesis cannot be rejected because the P-value is bigger than 0.05. The result is that there is no significant relationship between emotional intelligence of two groups of school students.

According to table 9, *P-value* of variances equality test is bigger than 0.05. So, the variances equality hypothesis of the two groups of diploma and lower diploma and upper diploma is approved. The mean of emotional intelligence grade among the school students of the two groups is obtained -33.02, the standard deviation is obtained 4.06 and the *P-value* is obtained 0.00. The zero hypothesis can be rejected because the P-value is smaller than 0.05. The result is that there is a significant relationship between emotional intelligence of two groups of school students. Therefore, the research hypothesis is approved and the emotional intelligence amount among the

school students with upper diploma mothers is more than diploma and lower diploma mothers.

**Table9.** T-independent test to compare the amount of students' emotional intelligence according to the mother' education

		Levin test for the equality of variances				Averages equality test				
		F	P-value	t	degree of Freedom	P-value	Average differences	Average differences and Standard deviation	95% confidential interval	
								Upper bound	Lower bound	
<b>Emotional intelligence among students</b>	Variances equality hypothesis	2.13	0.145	-8.12	302	0.00	-33.02	4.06	-25.02	-41.02
	Variances non-equality hypothesis			-8.09	293	0.00	-33.02	4.07	-25.001	-41.05

**Table 10.** T-independent test to compare the amount of students' emotional intelligence according to the father' education

		Levin test for the equality of variances				Averages equality test				
		F	P-value	t	degree of Freedom	P-value	Average differences	Average differences and Standard deviation	95% confidential interval	
								Upper bound	Lower bound	
<b>Emotional intelligence among students</b>	Variances equality hypothesis	1.03	0.309	1.74	302	0.082	7.8	4.47	16.6	-0.99
	Variances non-equality hypothesis			1.75	301	0.81	7.8	4.45	16.5	-0.96

According to the table 10, *P-value* of variances equality test is bigger than 0.05. So, the variances equality hypothesis of two groups of diploma and lower diploma and upper diploma is approved. The mean of emotional intelligence grade among the school students of the two groups is obtained 7.8, the standard deviation is obtained 4.47 and the *P-value* is obtained 0.08. The zero

hypothesis cannot be rejected because the P-value is bigger than 0.05. The result is that there is no significant relationship between emotional intelligence of two groups of school students.

### **Conclusion**

The results of analyzing the first question show that, there is a straight and strong relationship between school students' emotional intelligence and their achievement. The results of analyzing the second question show that, there is a straight and strong relationship between teachers' emotional intelligence and school students' Mathematic success. The results of analyzing the third question show that, there is a straight but not so strong relationship between teacher and students' emotional intelligence.

The results of analyzing the fourth question show that, there is a difference between students' Mathematic success according to the mother education. And the academic success among the students with upper diploma mother is more than the students with diploma and lower diploma mothers. But, there is no difference between the academic successes of school students according to the father's education.

The results of analyzing the fifth question show that, there is a difference between students' emotional intelligence according to the mother education. And the emotional intelligence among the students with upper diploma mother is more than the students with diploma and lower diploma mothers. But there is no difference between the emotional intelligence of school students according to the father's education. It seems that fathers have less relationship with their children. So, their education has no role in school students' emotional intelligence.

According to the above results, it can be said clearly that school students' emotional intelligence, teachers' emotional intelligence and parent's education level especially the mother are the effective factors on academic achievement and increase of the emotional intelligence.

According to the results of the study, the following recommendations are suggested:

- It is suggested to study the effects of cooperative learning, active, and problem solving learning on school students' emotional intelligence in Mathematic.
- Parent should gain the related skills by study and the recognition of the effective factors on increasing emotional intelligence, and insist on educating these factors to their children to cause the children's emotional intelligence increase and meanwhile be a good model for them. Encourage the children to do things that are effective on their emotional intelligence increase, such as: annotating to express the excitement; telling stories to achieve empathy and managing excitements, creating and listening to poems and music and etc.
- Teachers insist on increasing their emotional intelligence and their first priority should be creating and maintaining a healthy, safe and positive learning environment. They should use training school students' emotional intelligence techniques.
- Teachers should use new teaching methods with problem solving, active and cooperative learning approach in education.
- Considering that emotional intelligence is the reform's lost ring in education and training and preparing students for success in academic and real life, the schools need to go beyond the academic environment to improve the skills of real life and have a serious attention to the growth of school students' emotional intelligence. So, education schedule, curriculum and the



content of text books should be in the line of the growth of school students' emotional intelligence.

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