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# The role of emotional intelligence in predicting students' academic achievement in distance education system

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## Abstract

This study investigated the role of emotional intelligence and its components to predict academic achievement of Payame Noor University. The Statistical population involved all of the Ardabil Payame Noor University students (N = 7000) in 2008-9 academic year. From these, 328 students are selected as sample via multistage sampling. Based on the nature of subject and research questions, correlation method was thought to best serve the purpose of the present study. To collect the data, Bar-On Emotional Quotient Inventory and academic mean score of student were used. Reliability of this instrument is calculated as  $\alpha=0.93$  using Cronbach's alpha in Iranian society. For data analysis, multiple regression in enter model were used. The Results showed that emotional intelligence and its dimensions predict students' academic achievement statistically significant. From among the components of emotional intelligence, the shares of interpersonal (social awareness and interpersonal relationship), General Mood (self-motivation), and Intrapersonal (self-awareness and self-expression) were -0.368, 0.220, and 0.163, respectively.

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*Keywords:* Emotional intelligence; academic achievement; distance education.

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## 1. Introduction

Innovative delivery technologies have expanded the traditional classroom setting to distance or online learning, but whether the characteristics of students who are successful in the traditional classroom setting transfer to success in distance classes is unknown. Online education has experienced astronomical growth since the 1990s (Gallagher, 2002; Perreault, 2004,).

Open and distance learning is defined by the Commonwealth of Learning as a way of providing learning opportunities that is characterized by the separation of teacher and learner in time or place, or both time and place; learning that is certified in some way by an institution or agency; the use of a variety of media, including print and electronic; two-way communication that allows learners and tutors to interact; the possibility of occasional face-to-face meetings; and a specialized division of labour in the production and delivery of courses (Holmberg, 2009).

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Teachers and parents always have been concerned about student's academic success and social adaptation both in and out of the classroom. Only recently, however, have researchers realized that a person's emotional life has an impact on these important outcomes (Marquez, Martin, Brackett, 2006).

Learning is as much a function of a person's emotional response to a learning environment as it is to the instructional method or classroom (Flood, 2003). The success of distance students especially in online model, however, has been primarily investigated in terms of student ease with computer technology or satisfaction with the program rather than intrinsic characteristics such as self-directedness, self-motivation, emotional self-regulation, or persistence (Gallagher, 2002). Moreover, emotional characteristics that have been linked to distance success include persistent effort, internal locus of control, and self-efficacy (Albritton, 2003; Holcomb, King, & Brown, 2004; Kemp, 2002; Parker, 2003).

Learning theory views intellectual intelligence and emotion as polar opposites (O'Regan, 2003, Imel, 2003) despite the fact that "...effective learning is much more a function of the emotional response to a learning environment than the techniques and structures on which it is based" (Flood, 2003). People differ in their emotional responses to situations. Adult learners in particular have a need to be emotionally comfortable with the learning situation for learning to take place (Draves, 2000). Certain emotional competencies are necessary for learning to take place: Individuals must control negative emotions like fear, anxiety, and frustration so that positive emotions like enthusiasm and a sense of accomplishment can increase (O'Regan, 2003). Attending to emotions in the classroom enables both student and instructor to manage feelings and provides useful methods to address difficulties that could deter success (Gates, 2000).

Bar-On (2006) defines emotional intelligence as being concerned with effectively understanding oneself and others, relating well to people, and adapting to and coping with the immediate surroundings to be more successful in dealing with environmental demands (Bar-On, 1997). Bar-On posits that EI develops over time and that it can be improved through training, programming, and therapy (Bar-On, 2006) Bar-On hypothesizes that those individuals with higher than average Esq.'s are in general more successful in meeting environmental demands and pressures. He also notes that a deficiency in EI can mean a lack of success and the existence of emotional problems. Problems in coping with one's environment are thought, by Bar-On, to be especially common among those individuals lacking in the subscales of reality testing, problem solving, stress tolerance, and impulse control. In general, Bar-On considers emotional intelligence and cognitive intelligence to contribute equally to a person's general intelligence, which then offers an indication of one's potential to succeed in life. However, doubts have been expressed about this model in the research literature (in particular about the validity of self-report as an index of emotional intelligence) and in scientific settings, it is being replaced by the trait EI model discussed below (Kluemper, 2008). The component of emotional intelligence based on Bar-On's (2004) framework summarized as follow:

#### **Intrapersonal** (self-awareness and self-expression)

- **Self-Regard:** To accurately perceive, understand and accept oneself
- **Emotional Self-Awareness:** To be aware of and understand one's emotions
- **Assertiveness:** To effectively and constructively express one's emotions and oneself
- **Independence:** To be self-reliant and free of emotional dependency on others
- **Self-Actualization:** To strive to achieve personal goals and actualize one's potential

#### **Interpersonal** (social awareness and interpersonal relationship)

- **Empathy:** To be aware of and understand how others feel
- **Social Responsibility:** To identify with one's social group and cooperate with others
- **Interpersonal Relationship:** To establish mutually satisfying relationships and relate well with others

#### **Stress Management** (emotional management and regulation)

- **Stress Tolerance:** To effectively and constructively manage emotions
- **Impulse Control:** To effectively and constructively control emotions

### **Adaptability** (change management)

- **Reality-Testing:** To objectively validate one's feelings and thinking with external reality
- **Flexibility:** To adapt and adjust one's feelings and thinking to new situations
- **Problem-Solving:** To effectively solve problems of a personal and interpersonal nature

### **General Mood** (self-motivation)

- **Optimism:** To be positive and look at the brighter side of life
- **Happiness:** To feel content with oneself, others and life in general

Evidence for associations between EI ability and both social and academic achievement have been cited in a number of recent books and review articles (Brackett, Lopes, Ivcevic, Mayer, & Salovey, 2004; Brackett & Salovey, 2006; Mayer, Salovey, & Caruso, 2004). Williford (2000) found that there is relationship between emotional intelligence and academic achievement. Marquez, Martin, and Brackett (2006) indicated that there is relationship between EI and academic achievement in a sample of students in Spain. And according to finding of Berenson, Boyles, Weaver, (2008), EI was the primary predictor of academic success in distance and online courses.

As mentioned above that psychologists argue people who have emotional intelligence skills are more successful than the high IQ folks, who do not have emotional intelligence, and therefore high IQ may not be a good measure for future life success especially academic successful. Despite its contributions to success in other venues, there has been little investigation into the construct of EI as a predictor for success in the online environment. As distance education continues to play a greater role in higher education, the challenge is to explore the possible relationship between online learning and EI (Imel, 2003). This study investigated the role of emotional intelligence and its components to predict academic achievement of distance learning students.

## **2. Method**

### *2.1. Participants*

The Statistical population involved all of the Ardabil Payam-e-Noor University students (N = 7000) in 2008-9 academic year. From these, 328 students are selected as sample by using Cochran's formula and multistage sampling.

### *2.2. Materials*

The instrument of this research is a Bar-On Emotional Quotient Inventory which includes 90 questions in 5 categories. The categories are Intrapersonal, Interpersonal, Stress Management, Adaptability, and General Mood Scale. Each question was designed based on a 5-point Likhert scale scoring from 5 to 1 (completely agree = 5 to completely disagree = 1). This questionnaire was standardized to be used in Iran; its content validity was reported to be acceptable and its reliability was 0.93 by Cronbach's alpha (Samuei, 2003; Namdar, Sahebiagh, Ebrahimi, & Rahmani, 2008) and mean score of student were used for accessing of academic achievement.

### *2.3. Procedure*

Based on the nature of subject and research questions, correlation method was thought to best serve the purpose of the present study. The questionnaire was distributed among participants and gathered data was analyzed by using multiple regression in enter model.

### 3. Results

Table 1: correlation coefficient, mean and standard deviation

	1	2	3	4	5	Mean	Std. Deviation
Intrapersonal	1					105.53 (3.52)	12.06
Interpersonal	.321**	1				69.73 (3.87)	10.50
Stress Management	.496**	-.101*	1			37.59 (3.13)	6.64
Adaptability	.687**	.317**	.538**	1		60.90 (3.38)	7.19
General Mood	.709**	.563**	.353**	.591**	1	43.06 (3.59)	6.20

( ) mean is based on 5 \* p< .05 \*\* p < .01

Results from Table 1, show that there is a positive and significant correlation between components of emotional intelligence, but there is a negative and significant correlation between Interpersonal and stress management.

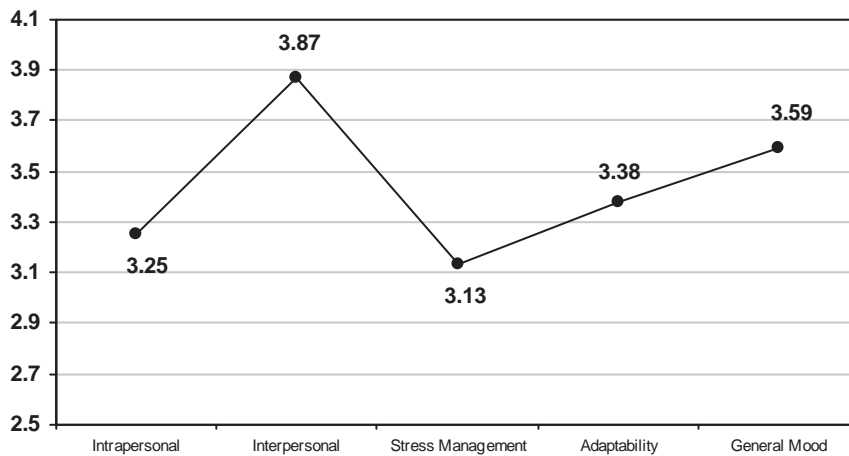


Figure 1. Profile of students' mean score in component of EQ.

As Figure 1, showed that based on 5 values, the highest mean score of component of emotional intelligence belongs to interpersonal (3.87) and the least mean score of those belongs to stress management (3.13).

In order to determine the influential components of emotional intelligence in predicting the academic achievement, taking the advantages of the enter method, multiple regression analysis was used.

Table 2: predicting the academic achievement on the base of emotional intelligence

		ANOVA				
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.90	5	17.98	7.19	.000
	Residual	805.03	322	2.50		
	Total	894.93	327			
		Coefficients <sup>a</sup>				
	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.74	.908		16.24	.000
	Intrapersonal	.02	.011	.163	2.02	.044
	Interpersonal	-.06	.012	-.368	-4.64	.000

Stress Management	.01	.017	.020	.31	.756
Adaptability	-.02	.018	-.071	-.92	.359
General Mood	.06	.025	.022	2.34	.020

**a. Dependent Variable: Academic achievement**

Note.  $R=0.317$ ,  $R\text{ Square} = 0.10$ ,  $R\text{ Adj} = 0.086$

As it can be seen from the results of table 2, adjusted R is .086 and  $F = 7.19$  is significant ( $p < .001$ ). So, dimensions of emotional intelligence may predict academic achievement. From among the components of emotional intelligence, the shares of interpersonal, General Mood, and Intrapersonal were -.368, .220, and .163, respectively in predicting of academic achievement were significant.

#### 4. Discussion

As students increasingly opt for distance learning classes, it becomes more important for administrators to predict levels of potential academic success. Affective domains such as interpersonal skills, interpersonal skills, stress management, adaptability, and general mode are slowly melding into distance learning instructional designs. Psychological characteristics are seen as necessary characteristics of successful students for the achievement of distance education programs and for the continuity of students to the programs. So this study examined the relations between emotional intelligence and academic achievement in distance education.

The results support the incremental validity of EI and provide positive indications of the importance of EI in distance learning students' academic achievement. In other words, emotional intelligence is predictor of academic success in distance learning environments. These results are in compliance with the findings of (Brackett, & et. al, 2004; Brackett, & Salovey, 2006; Mayer, & et. al, 2004; Williford, 2000). Also this result is in harmony with findings of Marquez, and et. al (2006), Berenson, et. Al (2008) and Imel (2003) that indicated there is relationship between EI and academic achievement

The other finding indicated that intrapersonal and general mode were positive predictor and interpersonal was negative predictor of academic achievement while stress management and adaptability weren't predictor of academic achievement significantly.

Characteristics of distance learning can help explain of these findings. Distance learning is based on independent learning and emphasis on the intrapersonal not emphasis on the interpersonal communication (Holmberg, 2009). In distance education, there is a gap between teacher and student, so the student must accept a high degree of responsibility for the conduct of the learning program. The autonomous learner needs little help from the teacher, who may be more of a respondent than a director. Some adult learners, however, require help in formulating their learning objectives, identifying sources of information, and measuring objectives.

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