

# Emotional intelligence and related factors in medical sciences students of an Iranian university

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## ABSTRACT

**Background:** Emotional intelligence has evolved lot of interest in a variety of fields. The aim of this study was to determine the emotional intelligence and its related factors among junior medical sciences students.

**Materials and Methods:** The research design was a descriptive — analytic analysis. Based on a census sampling method, the emotional intelligence of 322 junior medical sciences students was evaluated using the Bar-On Emotional Quotient Inventory. This study was done from 2008 to 2009 in the Mazandaran University of Medical Sciences.

**Results:** The findings showed that 48.1% and 22.4% of students had effective functioning and enhanced skills in emotional intelligence, respectively, while 29.5% of them needed some interventions in order to enhance the emotional intelligence. The study revealed that the students required intervention in every composite of emotional intelligence. In addition, emotional intelligence was correlated with gender, psychiatric history of the student and his/her family, experience of stressful life events, interest in the field of study, grade of study, and marital status.

**Conclusions:** The results of the present study have shown that the students need some interventions to improve their emotional intelligence.

**Key words:** Emotional intelligence, Iran, mental health

## INTRODUCTION

Emotional intelligence (EI) is considered as an important factor in both personal mental health and professional practice. Low level of EI was seen to correlate with some psychiatric disorders such as depression, addiction, and educational failure.<sup>[1,2]</sup> EI and its related factors are variables in the investigation of psychological health, as well as a growing field of research in university students' mental health assessment. EI is the ability of perception, evaluation, and expression of emotions, applying the emotions to facilitate thought, and the ability to understand, awareness, and applying it on self and others.<sup>[3]</sup> In other words, EI is awareness of self and others, and empathy.<sup>[4,5]</sup> Some research findings have shown that EI reduces stress and predicts the success factors

in healthcare workers, and that high-level EI is important in the performance areas which are critical for healthcare professionals.<sup>[6]</sup>

Moreover, different studies have confirmed that EI correlates with the quality of social network,<sup>[3]</sup> good interactions,<sup>[5]</sup> and better adaptation.<sup>[7]</sup> Other studies have also shown that EI has a negative relationship with drug abuse,<sup>[8]</sup> abnormal behaviors,<sup>[9]</sup> and depression.<sup>[10]</sup>

There are a few studies conducted on EI among the medical students. Brown and Schutte found a correlation between EI and fatigue in the university students.<sup>[11]</sup> It has shown the value of EI in mood health, stress, and psychosomatic health of students.<sup>[12]</sup> Another study was conducted on emotional state, sleeping, daily habits, depression, and stress among medical students. The results confirmed that many students suffer from emotional signs and symptoms, and showed that sleep problems are correlated to emotional signs.<sup>[13]</sup> In addition, the importance of EI depends on its ability to predict good and bad events of life. A study among Iranian students showed a positive significant correlation between EI and their psychological health.<sup>[14]</sup> The present study was conducted due to increasing attention to EI and its importance in psychological well-being and the social achievement of medical sciences students. So, this study aims to explore the level of EI and its related factors among Iranian junior medical sciences students.

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## MATERIALS AND METHODS

This study was conducted by descriptive — analytic method. By census sampling method, 398 students were recruited from medicine, pharmacy, nursing-midwifery, paramedical sciences, and health colleges in Mazandaran University of Medical Sciences from 2008 to 2009.

The data were collected through a self-reporting demographic questionnaire and Bar-On Emotional Quotient Inventory (EQ-I). Data were collected after informing the students about the purpose and importance of the research. Seventy-six questionnaires were excluded due to incomplete or non-answered status. The gathered data of 322 questionnaires (81% respondent rate) were analyzed using descriptive — analytic statistics (the comparative means and independent *t*-test) using SPSS-15 software.

Using the demographic questionnaire, information about age, sex, marital status, type of college, economic status, interest of field of study, having experienced stressful life events in the past 6 months, ways of coping with adverse situations, and previous history of psychiatric disorders among the students or their family was collected. The second tool was the Bar-On EQ-I. This questionnaire was established in 1997 by Bar-On, which includes a total score (Emotional Quotient or EQ), 5 composite scales, 15 content subscales, positive and negative impressions indices, and an inconsistency index, with 133 short questions, which are answered through Likert method (never, rarely, sometimes, usually, and always), with scores from 1 to 5. Some questions were scored reversely. The initial scores were converted according to a mean of 100 and standard deviation of 15. Relevant to the questionnaire guide, the scores were classified as the need for improvement (less through 89.99), effective functioning (between 90 and 110.99), and skill enhancing (111 through high). This questionnaire, its composites, and its subscales have shown a high level of internal consistency and reliability in different cultures. A psychometric property of this instrument has been evaluated in Iran by Dehshiry in a study.<sup>[15]</sup>

## RESULTS

The findings showed the age range of subjects was 17-40 years. The mean (standard deviation) of age was 20.4 (2.9). 69.3% of subjects were females and 89.8% were single. In addition, 29.2%, 67.4%, and 3.4% of subjects reported their economical status as good, moderate, and bad, respectively. 92.9% of students were interested in their field of study. The distribution of subjects according to their college showed that 11.8%, 8.1%, 23.6%,

16.8%, and 39.8% studied in the schools of medicine, pharmacy, nursing and midwifery, paramedical sciences, and health, respectively. 3.4% of subjects had a history of psychiatric disorder and 15.5% of them reported a history of psychological disorders in their family. 39.8% subjects presented a previous experience of stressful situations, and 25.8% of them mentioned stressful educational events.

In responding to the question, “How do you relax yourself when suffering or facing a problem?,” 111 (34.5%) students mentioned appropriate methods like consulting, problem solving, walking, listening to music, and religious methods such as praying. Two hundred and eleven (65.5%) students had selected inappropriate ways like crying, sleeping, and forgetting. The majority of samples (79%) applied a variety of coping methods to overcome the stressful situations.

Levels of total emotional intelligence and its composites on the basis of the need for intervention present in Table 1. Almost half of the students had effective function in the EI aspect and its indicators; however, almost a quarter of the students required a suitable intervention for enhancing the EI. (Table 1).

Table 2 shows the EI, its composites and related factors among Medical Sciences students.

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Furthermore, the students with a history of psychiatric disorders or with a family history had a lower positive and higher negative impression index compared to the other students. However, significant difference was seen only in negative impression index ( $P < 0.05$ ).

**Table 1: Levels of total emotional intelligence and its subscales on the basis of the need for intervention**

Levels Scores of EI	Enhanced skills Number (%)	Effective performance Number (%)	Area of enrichment Numbers (%)
Composite scales	Number (%)	Number (%)	Numbers (%)
Total EI	72 (22.4)	155 (48.1)	95 (29.5)
Intrapersonal intelligence	61 (18.9)	169 (52.5)	92 (28.6)
Extra-personal intelligence	50 (15.5)	183 (56.8)	89 (27.6)
Stress management	61 (18.9)	124 (38.5)	137 (42.6)
Adaptability	77 (23.9)	165 (51.2)	80 (24.8)
General mood	69 (21.4)	169 (52.5)	84 (26.1)

EI: Emotional Intelligence

**Table 2: The emotional intelligence of the evaluated subjects and its related factors**

Variables	Related factors	Mean	SD	Statistical test and significance	
Total emotional intelligence	Gender:				
	Female	98.6	15.9	No significance	
	Male	101.0	15.7		
	History of psychiatric disorder in the students:				
	Yes	110.7	13.9	$t=2.425, df=320, P<0.05$	
	No	99.0	15.81	$t=1.648, df=320, P<0.001$	
	Experience of stressful events:				
	Yes	98.0	15.0	No significance	
	No	103.4	17.6		
	Interest in the field of study:				
Yes	99.6	15.9	No significance		
No	97.5	14.4			
Intrapersonal intelligence	Encountering methods				
	Yes	99.6	16.2	No significance	
	No	99.6	14.1		
Gender:					
Extra-personal intelligence	Female	98.2	15.5	No significance	
	Male	101.5	14.6		
	Gender:				
	Female	98.0	13.5		No significance
	Male	97.1	16.8		
Marital status:					
Single	98.3	14.5	$t=2.014, df=320, P<0.05$		
Married	92.9	14.4			
Adaptability	Gender:				
	Female	98.4	15.5	$t=2.195, df=320, P<0.05$	
	Male	102.5	15.7		
Interest in the field of study:					
Stress management	Yes	96.1	16.0	$t=2.124, df=320, P<0.05$	
	No	88.8	12.3		
	History of psychiatric disorder in the family:				
	Yes	100.01	16.14	$t=2.113, df=320, P<0.05$	
	No	94.85	15.81	$t=4.219, df=320, P<0.05$	
	Experience of stressful events:				
	Yes	93.31	14.62		
	No	102.41	16/67		
	General mood	History of psychiatric disorder in the student:			
		Yes	111.2	15.6	$t=2.466, df = 320, P<0.05$
No		99.2	15.8		

## DISCUSSION

The results of the present study have shown that more than half of the students had an effective function, less than 20% needed improvement in skills, and more than 25% of junior students were required to improve their emotional skills in specific fields. The findings are consistent with the results of the studies conducted by Zahiroddin and Abari *et al.*<sup>[16,17]</sup> Thus, it is assumed that the reason for the low levels of EI is due to the students' age range, having a mean (SD) of 20.4 (2.9) years, which is the beginning of adulthood and is considered an unstable period of life.

The study showed that there is a significant difference between stress management composite and the field of

study. Several studies among medical sciences students showed that EI differs according to the field of study.<sup>[16]</sup>

Sex is one of the factors evaluated in most of the studies. Although the study revealed the mean of scores for males was higher than for females, the difference was not significant [Table 2]. Some studies did not find any meaningful difference,<sup>[1,16,18]</sup> while others reported that men had a higher level of EI than women.<sup>[10]</sup> According to the results, sexual differences should be considered in any intervention for improving EI among women and men.

The study revealed that single students had a higher level of interpersonal EI than married ones. Singaravellu and Zahiroddin found a meaningful correlation between EI and the marital status.<sup>[16,18]</sup> Variability of results regarding the EI

and related factors in different studies can be attributed to the differences in applied instruments, sampling, and the evaluated variables.<sup>[19]</sup>

In the present study, 3.4% and 15.5% of the samples reported history of psychological disorders of themselves and their families, respectively. Moreover, the mean of scores of total EI, stress management, and total mood of the students having a history of psychological disorder was higher than that of others [Table 2]. Furthermore, higher and more meaningful scores of negative impressions and low positive impressions of these students can confirm that these people are not in a valid position for EI self-reporting. In a study evaluating the validity of Bar-On questionnaire in a group of prisoners, the results showed that the prisoners reported a higher level of EI compared to normal people. Natural and social desirability causes the unexpected scores of EI.<sup>[20]</sup> Hence, a question that is raised to justify these results could be as follows: Is Bar-On questionnaire a valid instrument to evaluate EI in these groups?

Different researches approve that many students experience different stressful life events during their education period.<sup>[21,22]</sup> In our study, 39.8% students had suffered from stressful events, and 25.8% of them were related to educational problems. Almost 42.6% students required intervention in stress management. Moreover, a meaningful correlation was found between stressful life events and total EI and stress management. Several other studies have also revealed that EI is important in dealing with stressful life events;<sup>[7,8]</sup> thus, EI can predict the response to stress, based on the findings.

## CONCLUSION

Due to the significant role of EI on students' mental health, the implications of this study are identifying high-risk students and providing support and intervention for improving their EI. In addition, it is recommended to consider the ways of EI enhancement. Training some of the EI components such as interpersonal awareness, interpersonal skills, problem-solving skills, approaches to cope with stress, and compatibility.<sup>[6,23]</sup> can likely be one way to improve EI overall.

It should be noted that in spite of having research experiences among medical sciences students and predicting some complications that might emerge during the study, using long and high items inventory as well as normal and social desirability in responding to psychological questionnaires were inevitable limitations of this study.

## ACKNOWLEDGMENTS

We would like to express our gratitude to all those who gave us the possibility to complete this research. The Psychiatric and

Behavioral Research Center of Mazandaran University of Medical Sciences is gratefully acknowledged for funding. This study was approved by the ethics committee of Mazandaran University of Medical Sciences by the registered No. 8622.

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**How to cite:** Lolaty HA, Targari A, Fard JH. Emotional intelligence and related factors in medical sciences students of an Iranian university. *Iranian Journal of Nursing and Midwifery Research* 2014;19:203-7.

**Source of Support:** This research was done with the financial support of the Psychiatry and Behavioral Sciences Research Center of Mazandaran University of Medical Sciences, **Conflict of Interest:** None declared.

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