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*Original Article*

## Investigating social phobia and its relationship with emotional intelligence in medical students

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### **Abstract**

**Introduction:** Social phobia may interfere with academic achievements in medical students. According to the fact that individuals with social phobia have difficulty in establishing social relationships, it can be concluded that social phobia is reversely related with emotional intelligence. This research investigates the causes of social phobia in medical students and its relationship with emotional intelligence.

**Materials and Methods:** In this descriptive-analytical study, 244 medical students of Mashhad University of Medical Sciences who were doing basic sciences course in the academic year of 2012-2013 participated. The level of social anxiety and emotional intelligence were assessed by the Liebowitz Social Anxiety Scale (LSAS) questionnaire and the Schutte Self Report Emotional Intelligence Test (SSEIT). The collected data was analyzed by employing SPSS 16 and statistical tests including ANOVA, Pearson's correlation coefficient and T-test.

**Results:** The mean scores of emotional intelligence and social phobia were  $43.34 \pm 21.74$  and  $123.5 \pm 15.98$  respectively. There was an inverse relationship between social phobia and emotional intelligence ( $P=0.001$ ). The mean score of emotional intelligence in women was higher than men ( $P=0.006$ ). Grade Point Average (GPA) was remarkably linked to emotional intelligence ( $P<0.001$ ). We also showed a negative significant relationship between social phobia and emotional intelligence in students of semesters 1, 2, 3 and 5, in students with GPA below 17, in local students, in non-local students living in dormitories ( $P<0.05$ ).

**Conclusion:** There is a significant and inverse relationship social phobia and emotional intelligence in medical students.

**Keywords:** Emotional intelligence, Medical students, Social phobia

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## Introduction

Social phobia is overwhelming fear in different social situations and is followed by anxiety and avoidance (1). Those who have social phobia usually have lower performances in social interactions than others and may suffer from psycho-behavioral disorders (2); for example, they usually underestimate their social abilities and, compare with unaffected individuals, a lower self-assessment of social interactions (2,3). Since emotional intelligence is responsible for having a proper understanding of social relations, one can conclude that emotional intelligence is related to social phobia.

Emotional intelligence can be defined in different ways. Goleman defines it as a combination of different factors providing the individual with the ability to feel, control temper and stimuli, and manage despair and frustration, which may lead to social life achievements. In other definitions, emotional intelligence has been an alternative way of being intelligent. However, Mayer and Salovey have defined it as an ability to control oneself and others' emotions, distinguish the difference between these two, and employ information to predict others' minds and actions (4).

Researchers have depicted that understanding and analyzing social situations is connected to emotional intelligence (3). For example, a study conducted on 110 individuals by Hample and colleagues showed an inverse relationship between some aspects of emotional intelligence and social anxiety (2). In another research, Jacobs and colleagues showed that the intensity of social phobia is conversely associated with absolute emotional intelligence and experimental emotional intelligence, but not significantly with applied emotional intelligence (3). Azimi and colleagues showed a close connection between emotional intelligence and interpersonal relationships, controlling stress, and adapting dentistry students (5). Besharat's study also demonstrated a negative relationship between emotional stress and interpersonal problems (6).

Moreover, in Lopez and colleagues' research, it has been shown that friendship quality has a direct relationship with controlling emotions (7).

They concluded that emotional intelligence and personality traits affect (8). In another study directed by Rodebaugh in the psychology department of Washington University, it was shown that social phobia has a significant relationship with the perception of friendship quality (9). Also, Beidel et al. reported that individuals with social phobia have less adequacy in social skills compared with unaffected subjects and higher adequacy in social skills compared with those who have general social phobia (1).

The mentioned consequences of social phobia indicate the importance of further research in this field. Among the reported factors influencing social phobia, emotional intelligence was selected as the focus of this study because of its essential role in an individual's achievements and ability to cope with environmental demands. This study was conducted on medical students as their field of study makes them more vulnerable to social phobia, affecting their education and career immensely. Moreover, the extant literature shows that similar researches have focused on other majors in Iran and other countries. On the other hand, social phobia and emotional intelligence are closely bound with culture; for instance, in Iranian culture, modesty may be mistaken for fear as a literature review shows that a lacuna exists in studying social phobia and its relationship with emotional intelligence in medical students in Iran, the present research aimed to bridge this gap.

## Materials and Methods

This cross-sectional descriptive-analytical study was performed in Mashhad University of Medical Sciences (MUMS), Iran, in the academic year of 2012-2013. The participants selected among medical students who were doing introductory sciences courses. Two-hundred and seventy-one students voluntarily entered the research. The inclusion criteria included: not being older than 23 years old, not having any records of severe physical and mental illnesses, not facing severe stressful events during the previous fortnight, not being on any medication which affects mental status, and not being addicted to any substances. A final

group of 244 qualified participants out of 271 volunteers was selected for the research.

Research instrument

A) *Demographic Checklist*: It included the variables such as academic semester, gender, grade-point average (GPA), and the residency condition.

B) *The Liebowitz Social Anxiety Scale (LSAS)*: This multiple-choice questionnaire included two subscales; 1-Fear of social interaction (11 items) and 2-Social performance (13 items). Fear is measured based on a four-grade scale (zero: never to three: severe), and avoidance is assessed on the base of a four-grade scale (zero: never to three: always) through the previous week. The final score obtained from the test varies from 0 to 144. In this test, the scores between 55 and 65 are compatible with mild social phobia, 65-80 show marked social phobia, 80-95 demonstrate severe, and more than 95 show very severe social anxiety. Khoshouei proved the reliability and validity of the LSAS test on 324 students in Iran in 2008 (10).

C) *The Schutte Self Report Emotional Intelligence Test (SSEIT)*: This test comprises 33 items. The examinees choose their answers among five-point Likert scales varied from strongly agree to disagree strongly. In this test, a higher score indicates higher emotional intelligence. The reliability and validity of this

test in Iran have been proved by Bayani *et al.* through examining 306 students. They reported an average ( $\pm$  standard deviation) score of 117.9 ( $\pm 15.47$ ) for men, and 121.7 ( $\pm 15.11$ ) for women with Cronbach's alpha coefficient of 0.89. They reported the validity of this test by retest scale of 0.77 after four weeks (11).

The participants filled out the questionnaires after being instructed on filing them. Having been filled out the questionnaires anonymously, the participants dropped them in locked boxes personally to make sure that the information remains confidential to researchers. The collected data was analyzed by SPSS 16. Statistical tests, including ANOVA, Pearson's correlation coefficient, and T-test were employed, and descriptive indicators such as percentage were determined.

### Results

A total number of 244 participants filled out the questionnaires. The collected data, including the significance level and average scores with standard deviations of emotional intelligence and social anxiety, as well as demographic information (including the participants' academic semester, gender, GPA, and their residency) are depicted in Table 1.

**Table 1.** The demographic data and the scores of emotional intelligence and social phobia

Demographic variable		N (%)	Emotional intelligence	P	Social phobia	P
Semester	1	76 (31.1)	126.02 $\pm$ 15.41	0.315	44.60 $\pm$ 19.77	0.961
	2	39 (16.0)	119.66 $\pm$ 41.10		44.12 $\pm$ 22.36	
	3	49 (20.1)	124.53 $\pm$ 17.91		42.57 $\pm$ 24.77	
	4	38 (15.6)	122.02 $\pm$ 17.24		41.68 $\pm$ 23.25	
	5	42 (17.2)	122.76 $\pm$ 14.90		42.73 $\pm$ 20.21	
Gender	Female	153 (62.7)	125.68 $\pm$ 15.63	0.006	43.01 $\pm$ 23.46	0.763
	Male	91 (37.3)	119.89 $\pm$ 15.98		43.89 $\pm$ 22.32	
Grade-point average	> 17	48 (29.8)	124.89 $\pm$ 15.73	<0.001	41.97 $\pm$ 24.58	0.468
	15-17	72 (44.7)	125.20 $\pm$ 14.06		40.72 $\pm$ 20.39	
	<15	41 (25.2)	112.41 $\pm$ 15.06		46.12 $\pm$ 24.16	
Locality	Local	118 (48.6)	124.80 $\pm$ 15.65	0.470	41.50 $\pm$ 21.21	0.376
	Dormitory	114 (46.7)	122.23 $\pm$ 15.93		45.42 $\pm$ 22.47	
	Personal home	11 (4.5)	122.72 $\pm$ 20.73		45.18 $\pm$ 16.12	

Based on the findings, there was significant relationship between gender and emotional intelligence. In addition there was a same

relationship between GPA and emotional intelligence. While, there was no significant relationship between emotional intelligence and

other demographic data. Also, there was no significant relationship between social phobia and demographic data (Table 1). The result showed that the mean scores of emotional intelligence and social phobia were  $43.34 \pm 21.74$  and  $123.5 \pm 15.98$ , respectively.

According to LSAS cut off points, the scores below 55, which are considered healthy, were %69.3, those between 55-65 (moderate social phobia) were %15.6, those between 80-65 (marked social phobia) were %5.3, and those above 95 (severe social phobia) were %0.4. The results show that with the increase of emotional intelligence score, the score of social phobia decreases significantly ( $P= 0.001$ ).

Table 2 illustrates the correlation between emotional intelligence and social phobia in detail based on participants' academic semester, gender, GPA, and residency by the level of significance and correlation coefficient. As it is depicted, there was a significant reverse relationship between emotional intelligence and social phobia in all academic semesters except for semester four. This negative correlation was significantly seen in both sexes and the groups of participants classified based on GPA, and residency. However, in the group with GPA higher than 17 and the non-dormitory group, emotional intelligence had no remarkable relationship with social phobia.

**Table 2.** The correlation between emotional intelligence and social phobia based on the demographic data

	Social phobia			
	Demographic variable	P	R	
	Emotional intelligence	Academic semester	1	<0.001
2			0.002	-0.484
3			<0.001	-0.482
4			0.810	-0.040
5			0.003	-0.451
Gender		Female	<0.001	-0.388
		Male	<0.001	-0.410
Grade-point average		> 17	0.26	-0.320
		15-17	<0.001	-0.474
		<15	<0.001	-0.501
Locality		Local	<0.001	-0.454
		Dormitory	<0.001	-0.354
		Personal home	0.673	-0.144

## Discussion

This study shows that social phobia is common among medical students in Iran. Emotional intelligence in those participants with social phobia is significantly low. Female students have remarkably higher emotional intelligence, and there is a significant relationship between emotional intelligence and GPA. There is a significant reverse relationship between emotional intelligence and social phobia in almost all academic semesters. This negative relationship is also seen in the local students, the non-locals living in a dormitory, and among the participants with GPA lower than 17.

Hample and colleagues examined the relationship between emotional intelligence and social phobia among 110 randomly selected

individuals from the general population in 2011. They assessed three abilities of emotional intelligence, including social perception, social understanding, and social memory. They also employed the social interaction anxiety scale and the social phobia scale to measure social anxiety. According to their study, some social anxiety aspects are in opposing relationship with some aspects of emotional intelligence such as social perception, understanding, and memory (2). Furthermore, Jacobs and colleagues in 2008 showed that the intensity of social phobia has an inverse association with absolute and experimental emotional intelligence but not significantly with applied emotional intelligence (3). Our results are consistent with Jacobs's findings and Hample's study, which may be due

to the similar factor considered in these studies. However, there are factors in these studies which are different and are listed as bellow. Hample's research was conducted on participants from the general population, and Jacobs et al. studied both patients and control group, while in the present study, the participants were selected randomly among medical students. Moreover, the sizes of sampled populations of the mentioned studies were smaller than our study. There is also a difference in the method of measuring emotional intelligence in the above studies. However, despite these differences and cultural discrepancies, the results indicate that social and cultural differences almost have no remarkable effect on the relationship between emotional intelligence and social phobia (2,3).

In other researches, the factors considered in our study had not been identically studied. For example, a study conducted by Beidel in 2010 on 119 individuals with general social phobia, 60 individuals with specific social phobia and 200 healthy participants showed less adequacy in social skills among the sufferers from a specific social phobia in comparison with ordinary people and higher adequacy in social skills compared with those who have general social phobia (1). In another study, Shahany Yeylaq and colleagues, by studying 120 master students of the Shahid Chamran University of Ahvaz, concluded that training the students to increase emotional intelligence improves social adaptability. In other words, there was a significant difference between the social adaptability scores of the experimental group and that of the control group (12).

This study examined the relationship between emotional intelligence and social phobia in the groups classified based on academic semester, gender, GPA, and locality. Moreover, emotional intelligence and social phobia with each component of demographic data were separately studied. There was no association between emotional intelligence and social phobia in the on-local participants living in personal houses and those with low financial status. The authors believe that the reason lies in the small number of these participants.

The prevalence of social phobia in students, according to this study, is %30.7. The lifetime prevalence of social phobia in Adnan Menderes University students in Turkey was %21.7 and its prevalence in the last year was %16.1 (13). Also, the prevalence of social phobia among Brazilian and Swedish students was %11.6 and %16.1, respectively (14,15). In this study, no significant relationship between social phobia and demographic items was found. Also, there was no link between social phobia and gender. The study on Adnan Menderes University students in Turkey showed that women are 1.7 times more likely to develop social phobia than men (13). In another study conducted on Swedish students, a significant difference in social phobia between the two genders has been demonstrated (15).

In our study no significant relationship between social phobia and participants' GPA was found, while in a study on Brazilian students in 2011 a notably lower GPA in women with social phobia was showed in comparison with healthy women (14). The reason may lie that in Iran, the medical students are admitted among almost brilliant applicants. This may result in a comparable academic level in medical students in Iran and hence justify the mentioned discrepancy between these two studies.

The present study shows that women have a higher level of emotional intelligence than men, while others have opposite results. For example, a study on Australian students demonstrated a higher level of emotional intelligence among men compared with women (16). Such gender discrepancy was found in another study conducted by Birks and colleagues on medical students (17), while in Stratton and colleagues' study no significant relationship between emotional intelligence and gender was found among medical students (18).

In this study, a significant relationship between emotional intelligence and GPA was demonstrated. In a study on American students, it was found that there is a direct relationship between emotional intelligence and academic scores (19). Similar results were achieved by Fernandez et al. in research on nursing students of Sydney University (20) and Besharat and colleagues in a study on high school students

(21). Also Bakhshi's study showed a significant and positive correlation between all elements of emotional intelligence and academic performance (22). Because emotional intelligence is a tool for controlling emotions and excitements, it can be concluded that students with a higher level of emotional intelligence are more successful in managing exam stress, academic planning, and establishing better relationships with their lecturers and other students. Hence, emotional intelligence can be an influential factor in academic scores. However, since the present research is a cross-sectional study, an accurate assessment of the participants' overall academic performance based on this study is not possible. Moreover, as far as all courses during the second academic year of medicine in Iran are mainly theoretical, and since most of the exams in this year are in written form, the academic records of these courses cannot portray a real relationship with emotional intelligence. Therefore, such a correlation in medical students is better to be investigated during clinical courses.

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In this study, no significant link was found between emotional intelligence and living place, while in Harrod's study, there was a significant relationship between emotional intelligence and family income and living place (4). There was no significant correlation between age and any elements of emotional intelligence and social phobia in our study. This may be due to the restricted age range of participants.

In the end, it should be mentioned that this study has its limitations. For example, as far as this study is conducted on medical students, the results cannot be expanded to represent the whole community.

#### Conclusion

Based on the findings, there is a significant and inverse relationship social phobia and emotional intelligence in medical students.

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