

## ORIGINAL ARTICLE

EFFECT OF AGE AND GENDER ON EMOTIONAL INTELLIGENCE  
IN MEDICAL STUDENTS

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**Background:** Emotional intelligence is based upon self-awareness, self-management, social awareness and relationship management. It is considered one of the strongest predictors of performance. Current study was planned to determine the effect of age and gender on emotional intelligence in medical students. **Methods:** Sample of the study comprised of 347 students of 2<sup>nd</sup> and 3<sup>rd</sup> year MBBS classes from Army Medical College Rawalpindi. The Quick Emotional Intelligence Questionnaire was used to measure Emotional Intelligence of the respondents, whereas the demographic information regarding their age, gender and year of study was recorded on a separate sheet. Descriptive and inferential analysis using multiple linear regression, t-test and chi square was employed to analyze the data. **Results:** Multiple regression analysis on age and gender revealed that gender had significant effect on emotional intelligence  $F(2, 344) = 6.13, (p=0.001)$ . Using multivariate analysis of variance, results further revealed that male gender was significantly associated with emotional management ( $p<0.001$ ) and relationship management ( $p=0.009$ ). In high emotional intelligence category males were significantly high in percentage (26%) as compared to females (16%) whereas in low and moderate categories percentage of females was higher ( $p=0.05$ ). **Conclusion:** Male gender was associated with high levels of emotional intelligence especially with emotional and relationship management. However, age did not significantly contribute in emotional intelligence in the present sample.

**Keywords:** Emotional Intelligence, Interpersonal intelligence, Intrapersonal intelligence

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## INTRODUCTION

During the past few decades, emotional intelligence (EI) has been the most popular construct among researchers. The term emotional intelligence first appeared in 1985. Emotional intelligence is one's unique ability to perceive, appraise and express emotions.<sup>1</sup> Previous literature has shown emotional intelligence to be related to mental, social, and physical health among college students.<sup>2</sup> It is further suggested that EI play a vital role in one's personal and professional life. It is an important indicator of success in different domains of one's physical and mental health, social functioning, daily living and academic performance.<sup>3</sup>

The question of what makes people perceive emotions correctly is an important ingredient of emotional intelligence.<sup>4</sup> Males and females differ significantly in aspects related to the emotional world. Literature further adds that in human beings emotional dimension has been linked mostly with female gender.<sup>5</sup> In a study it was concluded that males had higher intrapersonal intelligence whereas females exhibited higher interpersonal intelligence, though men perceive themselves to possess higher EI levels than women.<sup>6</sup> Similarly, another study found that girls are extremely high at perceiving, utilizing and regulating emotions for building relationships.<sup>7</sup> It is also widely believed that culturally, girls are more expressive on feelings as compared to boys. There are various factors that might explain this difference which include biological and social factors. The biological perspective explain that

female's biochemistry is better prepared to understand one's own and others emotion. In addition to this, the cerebral processing of emotions is different for males and females.<sup>8</sup>

Studies report opposing results regarding effect of age on EI.<sup>9</sup> Emotional intelligences can be learned, cultivated and increased in adulthood.<sup>10</sup> The theoretical EI model stressed that it is an ability rather genuine intelligence, based on the observation that increases with age and experience.<sup>11</sup> Review of literature reveal contradictory findings in this regard, for example, a study conducted to explore the relationship between EI and age on 300 trainee teachers reported a significant positive correlation between EI and age.<sup>12</sup> On the other hand, in a study on secondary school teachers it was reported that there was no significant relationship between EI and age.<sup>13</sup>

The review of literature is able to develop an insight through which one has somewhat clear understanding that EI is considered to be an indicative predictor of academic success among medical students as well as general college and school students. The present study aimed to investigate the impact of gender and age as independent variables on EI among medical students.

## METHODOLOGY

The study was conducted after taking approval from Ethical Review Committee of Army Medical College, Rawalpindi from November 2017 to January 2018.

Students of MBBS class (2<sup>nd</sup> and 3<sup>rd</sup> year) of Army Medical College were recruited in the study after obtaining written informed consent. Students having any psychiatric illness were excluded. Sample size was calculated using WHO sample size calculator. By keeping alpha as 0.05, power as 90%, standard deviation as 8 and mean difference as 2, a sample size of 337 was determined. Non-probability convenience sampling was used for selection of the participants.

Data collection tool was 'The Quick Emotional Intelligence Self-Assessment Questionnaire adapted for the San Diego City College MESA Program from a model by Paul Mohapel.<sup>14</sup> This is a validated and reliable questionnaire having responses on 5-point Likert Scale coded from 0 to 4. The questionnaire was based upon four sub-components of emotional intelligence like emotional awareness, emotional management, social emotional awareness and relationship management. The questionnaires were distributed to 384 students at an expected response rate of 90%. After discarding incompletely filled/unfilled questionnaires we were left with 347 questionnaires.

Descriptive and inferential analysis of the data was carried out using SPSS-25. Multiple linear regression was used to determine the effect of age and gender on emotional intelligence. Mean scores of emotional intelligences were compared between the two genders using independent samples *t*-test. Frequency comparison of males and females across different categories of emotional intelligence was performed using Chi-Square test. Level of significance was kept at 0.05.

## RESULTS

The study had 197 (56.8%) males and 150 (43.2%) females and the mean age of participants was 20.08±0.95 years. Table-1 shows results of multiple regression analysis for effects of age and gender on emotional intelligence. The regression model was statistically significant  $F(2, 344) = 6.13, (p=0.002)$  and with an adjusted R square value of 0.03. Males were coded as 1, females as 2 and age was measured in years. Difference between mean scores of emotional intelligence for males and females is shown in Table-2 along with the *p*-value. Table-3 shows the results of multivariate analysis of variance. The effect of gender was significant on the four subcomponents of emotional intelligence when considered jointly (Wilk Lambda= 0.86,  $F(4, 342) = 13.43, p < 0.001, \eta^2 = 0.14$ ). Results of ANOVA for each dependent variable are shown in Table-3. Frequency comparison of males and females is shown in Table-4 across the three categories of emotional intelligence.

**Table-1: Effect of age and gender on emotional intelligence**

Independent variables	Unstandardized coefficient (B)	95% CI	<i>p</i>
Age	-0.13	-2.14–1.86	0.89
Gender	-6.84	-10.69–3.00	0.001

**Table-2: Comparison of emotional intelligence between males and females**

Groups	Mean±SD	95% CI	<i>p</i>	Cohen's d
Male	108.51±18.725	3.04–10.63	<0.001	0.37
Female	101.67±17.029			

**Table-3: Comparison of emotional intelligence subcomponents between males and females**

Subcomponent of EI	Gender	Mean±SD	<i>p</i>	Partial eta squared
Emotional awareness	Male	23.78±5.25	0.086	0.009
	Female	22.78±5.49		
Emotional management	Male	27.45±5.88	<0.001	0.089
	Female	23.49±6.83		
Social emotional awareness	Male	28.66±6.31	0.499	0.001
	Female	29.09±5.16		
Relationship management	Male	28.23±6.86	0.009	0.020
	Female	26.31±6.55		

**Table-4: Frequency comparison of males and females across 3 categories of emotional intelligence**

	Emotional intelligence			<i>p</i>
	Low	Moderate	High	
Male	14 (7.1%)	132 (67%)	51 (26%)	0.05
Female	17 (11.3%)	109 (73%)	24 (16%)	

## DISCUSSION

The aim of the present study was to investigate whether gender and age had an effect on emotional intelligence in medical students. Result of our study showed that males were high on Self-Assessment Emotional Intelligence Questionnaire than females. A significant difference ( $p < 0.01$ ) among males and females on EI was observed. Our findings suggest that among the present sample males are emotionally intelligent than females when compared in terms of gender. The present findings, though, may be in contrast to the majority of the previous research findings warrant explanation. Our observed figures revealed that male group scored higher on emotional and relation management subscales whereas female group was higher on social emotional awareness, though the difference observed was not large. The possible reason for gender disparity on three subscales of EI indicate that males were better in measure of emotional and relation management which may possibly be attributed to medical studies. The present findings are representatives of medical students who are nurtured and developed in an armed forces institute which points out to the probability that these students may have been provided with the training of emotional and relationship management through the disciplinary environment of the Institute. In such institutions, management have a responsibility to train the students in such a way that help them to develop the

ability to better manage their emotional responses to stressors and to prevent the attrition of empathy skills as compared to general population of the similar age group. Another probable reason for the present finding might be due to the fact that emotional intelligence primarily deals with managing and expressing one's emotions as well as social skills. Such findings thus obtained are, however, consistent with the findings of previous studies where it was concluded that males have higher levels of emotional intelligence than that of females.<sup>15,16</sup> Similarly in a study among medical students it was reported that males score higher than females in EI test.<sup>17</sup> In connection with the observed gender differences, a study about the gender differences on emotional intelligence revealed significant differences between men and women on some subscales of emotional intelligence, i.e., Assertiveness, Impulse Control, Independence and Stress Tolerance.<sup>18</sup> It concludes that men at times are more assertiveness, self-recognized and show more independence and management according to the situations as compared to women.

Review of previous literature indicates that emotional intelligence increases with increase in age. However, in the present sample we observed that age did not significantly affect EI. The possible reason for this non-significant effect may be attributed to the fact that the age group of the present sample did not vary widely. The Mean age of the sample was 20 years with Standard Deviation of 0.09. Therefore, we may argue that this difference in age was not enough to detect differences in EI among the sample. Our findings are also supported by an earlier study in this regard which shows that there was no significant relationship between EI and age.<sup>13</sup> However, a study having participants with a wider age range is required to be carried out to establish effect of age on EI.

## CONCLUSION

Male medical students in an armed forces setup have higher emotional intelligence as compared to female students of the same Institution. Male students are

especially better in emotional and relationship management. However, emotional intelligence is unrelated to age.

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