Research Article

Prevalence of Emotional Intelligence in Students at a Medical College in Pakistan

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Abstract

Background: Traditional thinking places high Intelligence Quotient (IQ) as the most important predictor of success but its contribution is only half that of Emotional Intelligence (EI), the ability to manage emotions. EI encompasses several skills, all of which need to be mastered for professional and personal success.

Objectives: To determine the emotional intelligence level of medical students at a private medical college in Lahore, Pakistan, and to see its association with gender and years of study.

Methods: This comparative cross-sectional study was conducted between January and March 2022. Convenience Sampling was used to select 370 medical students at a private college in Lahore, Pakistan, who filled out a questionnaire to measure their emotional intelligence. SPSS 20 was used for data analysis.

Results: The majority scored in the middle range of EI, with a mean score of 58.6±7.8 (out of a possible lowest score of 20 and highest of 80). There was a significant association of EI with gender as well as with years of study. Males had higher total EI scores than females (p.002), as well as higher mean EI score of 59.9±8 compared to 56.9±7.3 for females (p.001). Students from higher classes had higher total scores as well as higher mean scores than those from lower classes (p.001) and (p.001) respectively.

Conclusions: Half the respondents got mid-range EI scores. While there were very few low scores, only a third scored in the desirable higher ranges indicating a need for counselling.

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Introduction

Leaders today face unprecedented challenges with rapidly evolving technology and competitive work environments. Great leaders inspire subordinates, paving the way for personal and organizational glory. Traditional thinking places high Intelligence Quotient (IQ) as the most important predictor of success, but multiple studies have shown a high IQ or high grade is no guarantee of success, especially at higher levels, as it does not prepare one for the trials and tribulations of life; its contribution to success is a mere 20%. There are actually two kinds of intelligence, the rational and the emotional. Managing emotions and reactions to one's advantage is part of a fairly recent concept, Emotional Intelligence (EI), compared to the traditional intelligence, IQ, which is a measure of intellect. While IQ is akin to thinking with the head, EI suggests a harmony of head with the heart.

To succeed in life, one needs to be good at both.[1]

The term Emotional Intelligence was first put forward in early 1990s by Professors of Psychology Mayer and Salovey from University of New Hampshire and Yale respectively. Mayer defined EI as "…the ability to accurately perceive your own and others' emotions; to understand the signals that emotions send about relationships; and to manage your own and others' emotions".[2] The concept became popular after Rutgers psychologist Daniel Goleman published his groundbreaking book 'Emotional Intelligence' in 1995. Harvard Business School declared EI as one of the 'most influential business ideas of the decade'. Goleman analysed competency data from top performers regarding technical ability, cognitive ability, and EI. He found that EI was twice as important as other skills in the likelihood of excellent performance; almost 90% of the competencies that were the hallmark of excellent performers belonged to EI. While technical ability and high IQ should not be underestimated, they are 'threshold' competencies, or basic skills required for the job, not enough on their own for success.[3] Research has shown the benefits of high EI in various fields including medicine. Studies in medical and other university students from Pakistan, Saudi Arabia, and Iran found strong positive associations of high EI scores with good academic performance, happiness, and lower burnout rates.[4,5,6,7,8]

Three major models of EI exist currently, along with multiple smaller variants. The original one by Mayer and Salovey was based on the traditional concept of Intelligence. Reuven Bar-On concentrated on well-being, and Goleman's work that is currently in vogue concentrates on behaviour and performance.[3] Margaret Andrews, former Associate Dean at Harvard University describes four domains of EI: self-awareness, self-regulation, social awareness, and social skills. These components are further divided into twelve competencies. Self-awareness is being able to understand one's own emotions and their impact on others. Self-regulation means being able to manage one's emotions, staying calm and positive under pressure and controlling disruptive impulses. Social awareness is mainly about empathy or realizing how others feel. Lastly, social skills enable healthy relationships, including teamwork, conflict management, and ability to inspire.[9,10] Mastering these skills is not only important for professional advancement, but also equally important for an emotionally satisfying personal life.[1] Great leaders need to be good at all these competencies so as not to miss out on crucial skills leading to an unbalanced EI which prevents one from reaching one's full potential.[10] One could be highly intelligent, excellent at planning and organizing, but lacking in anger management, or empathy. As the ancient Greek philosopher Aristotle said,

"Anyone can become angry…That is easy. But to be angry with the right person, to the right degree, at the right time, for the right purpose, and in the right way - that is not easy."[11]

The good news is that EI can be acquired and polished at all ages, in fact it improves naturally with age. Experience, however, is not the only yardstick, correct guidance and training is essential. Psychologists are now hired by top companies to apply competency models to identify future star leaders and further hone their skills by training.[3,10] Before one can try and improve EI one needs to know where one stands on the EI ladder. Simply by observing one's attitude and behaviour, a trained eye can tell how emotionally stable a person is.[10] Signs of low EI are getting easily upset, feeling overly emotional or misunderstood, and being unassertive. On the other hand, people having high EI are tactful, remain calm during stress, and can inspire others towards a desired goal.[9] Many of the different EI models have their own tests to assess EI.[10]

High emotional intelligence is the most important factor for success in life, but is a sadly neglected field in a world that values pure technical excellence and traditional intelligence. Most of the work done in Pakistan has focused on the relationship between high EI and different factors like academic performance, less so on determining actual levels of emotional intelligence in our students. Therefore, this study was conducted as a humble attempt to create awareness regarding the importance of knowing one's own EI level, and to stress that it can and should be improved with the right guidance. The aim of this study was to determine the emotional intelligence level of medical students at a private medical college in Lahore, Pakistan, and to see its association with gender and years of study.

Methods

This was a comparative cross-sectional study conducted at Combined Military Hospital (CMH) Lahore

Medical College, a private institute in Lahore, Pakistan between January and March 2022. Required sample size of 150 was calculated using WHO formula, with an anticipated prevalence of moderate EI level (89%), 5% margin of error and 95% confidence interval.[8] Convenience sampling was used. All the students (n=750), from all five years of study and of both sexes, were eligible; 370 agreed to participate and after informed verbal consent, filled out a questionnaire to measure their emotional intelligence during class hours. Complete anonymity was assured. Ages of the students ranged from late teens to mid-twenties. The study was approved by the Ethical Review Committee of CMH Lahore Medical College (#.714/ERC/CMH/LMC).

The questionnaire consisted of the EI test developed by Susan Box Mann, with added demographic characteristics like gender and year of study.[12] Cronbach's Alpha score of 0.72 confirmed the internal consistency, and public health specialists validated the study. The test consisted of 20 items, 12 checking emotional responses on being criticized, in difficult situations, managing negative emotions when pursuing a goal, utilizing feedback, using sense of humour appropriately, ability to see others' perspective, recognizing effect of own behaviour on others, registering a complaint properly, listening patiently to others, being disciplined, staying calm during stress and listening to others viewpoint even when disagreeing. Another 8 questions related to responses in given situations including friends having an argument, death of a friend's mother, facing an unpleasant task, being in a heated discussion, getting bad grades despite hard work, having a colleague with an annoying habit, being overworked, and not getting credit for work done. Each item had multiple choice responses with 4 points for the most emotionally intelligent answer and 1 point for the least. Adding up the scores gave a minimum possible score of 20 and a maximum of 80. A score between 68-80 was classified as extremely high EI, skilled at handling emotions; 60-68 meant a high score but with room for improvement; 48-60 was a middle range score where one reacts satisfactorily in some situations but not in others; 40-48 showed low EI where one struggles in stressful situations. A score below 40 was labelled as extremely low EI where one's emotions often run haywire.

Statistical Package for Social Sciences (SPSS) version 20 was used for data analysis. Descriptive statistics i.e., frequencies, percentages, and means (±standard deviation) were calculated. Chi-square test of significance was used to find association between EI and gender or year of study. Independent sample t-test was used to compare mean scores of EI between sexes, and ANOVA test to compare means between years of study. P-value <0.05 was considered statistically significant.

Results

Out of 750 medical students approached, 370 consented to participate. The response rate was 49.3%. The demographic characteristics of the participants have been depicted in Table 1.

Table 1: *Characteristics of the study population (n=370)*

Category	Frequency	Percentage (%)
Gender:		
• Male	207	55.9
• Female	163	44.1
Total	370	100
Year of Study:		
• 1st Year	103	27.8
• 2nd Year	72	19.5
• 3rd Year	75	20.3
• 4th Year	64	17.3
• 5th Year	56	15.1
Total	370	100

The majority of students had total EI scores in the middle range (197 or 53.2%) followed by high (92 or 24.9%), extremely high (49 or 13.2%), low (29 or 7.8%) and extremely low (2 or 0.5%). Comparison of genders for total EI scores showed more males in the higher category (comprising high and extremely high scores), i.e., 97 or 46.8% males compared to 44 females (27%). More females scored in the middle range EI (103 or 63.2%) versus males (95 or 45.9%). The lowest categories (low and extremely low EI) had 15 (7.2%) males and 16 (9.8%) females. There was a significant association between gender and total EI scores (p.002). Details of comparison between gender and total EI scores is shown in Figure 1.
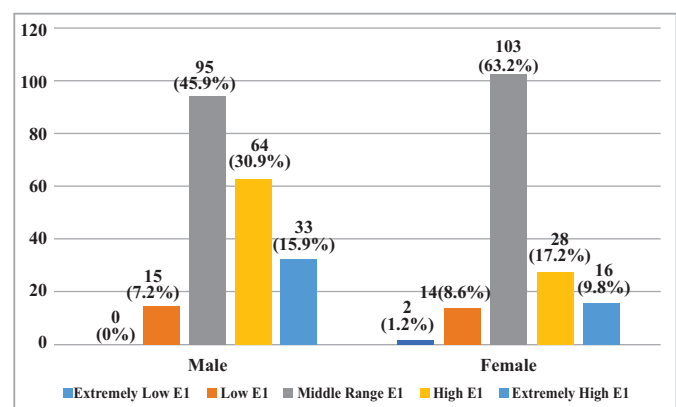

Figure 1: *Comparison of total Emotional Intelligence scores between Male and Female Medical Students (n=370)*

Table 2: *Association between year of study and total EI score (n=370)*

Year of Study	Emotional Intelligence Category					P-value
	Extremely Low EI f (%)	Low EI f (%)	Middle Range EI f (%)	High EI f (%)	Extremely High EI f (%)	
1st Year	1 (0.9%)	11 (10.7%)	82 (79.6%)	8 (7.8%)	1 (0.9%)	.001
2nd Year	0 (0%)	8 (11.1%)	59 (81.9%)	5 (6.9%)	0 (0%)	
3rd Year	1 (1.3%)	7 (9.3%)	44 (58.7%)	23 (30.7%)	0 (0%)	
4th Year	0 (0%)	3 (4.7%)	8 (12.5%)	27 (42.2%)	26 (40.6%)	
5th Year	0 (0%)	0 (0%)	5 (8.9%)	29 (51.8%)	22 (39.3%)	
Total	2 (0.5%)	29 (7.8%)	198 (53.5%)	92 (24.9%)	49 (13.2%)	

Year of study and total EI scores also showed a significant association (p.001), which is depicted in Table 2.

The EI scores of the medical students ranged from 38-79, with a mean score of 58.6±7.8 respectively. Mean EI score of males was 59.9±8 and that of females was 56.9±7.3, and this difference was statistically significant (p.001). Similarly, mean scores of all the different years of study also showed a significant difference (p.001), with highest scores shown by Final Year and 4th Year students. Details are shown in Table 3.

Table 3: *Comparison of mean EI scores of different years of study (n=370)*

Category	Number (n)	Mean EI Score	
		Mean ± Standard Deviation	P-value
1st Year	103	54.11±5.1	
2nd Year	72	54.33±4.6	
3rd Year	75	56.53±6.2	
4th Year	64	65.89±6.9	.001
5th Year	56	66.83±5.4	
Total	370	58.61±7.8	

The highest scores obtained by different years of study were by 4th Year (79), followed by Final Year (76), 1st Year (70), 3rd Year (68), and finally 2nd Year (67). The classes with the lowest EI scores were 1st Year and 3rd Year (38 each), followed by 4th Year (44), 2nd Year (45) and Final Year (50).

Discussion

This study assessed the emotional intelligence of students at a medical college in Lahore. The majority (53%) scored in the middle range of EI. Approximately 38% had high EI scores (24.9% high and 13.2% with extremely high EI). Very few, only 8.3%, scored in the low EI bracket (7.8% low and 0.5% extremely low). EI scores ranged from 38-79 (out of a possible lowest score of 20 and highest possible of 80), with a mean score of 58.6±

7.8. These results are comparable to those from a study in medical students in New Delhi, India which found 51% students with moderate EI. High EI was seen in 49% students, with none falling in the low EI category.[13] A study in medical students from Tehran, Iran also showed moderate EI levels in majority (89%).[8]

However, these results contrast with some studies from Pakistan, where majority of university students had high EI scores.[4,5] Medical students from Peshawar, Pakistan also showed high EI in the majority.[14,15] Similarly, studies from Shiraz, Iran and from Chennai and Delhi in India showed majority of the medical students had high EI,[7,16,17] Another one from Malaysia also showed over half the medical students scoring high.[18] Other studies have shown majority with low EI scores. A Pakistani study from 2nd, 3rd and 4th year medical students in Rawalpindi showed adequate EI scores in only 32.5%, 39% and 32% respectively.[19] Most of the medical students in a study from Ghana showed low EI scores, with only 14.1% having good scores (>120).[20]

From this study, the students from the senior classes had high total EI scores (high plus extremely high); approximately 91% from Final Year and 83% from 4th Year, with approximately 40% from each class showing extremely high EI. Third Year was in the middle with 31% scoring high EI. First Year and 2nd Year students made up the bottom with 8.8% and 6.9% respectively scoring high. The difference between these scores was highly significant. By contrast, the classes with the highest number of low EI scores (low plus extremely low) were 1st, 2nd, and 3rd Year students (11.7%, 11.1% and 10.6% respectively). These results contrasted with studies from Delhi, India and Accra, Ghana which showed no difference in EI between different years.[17,20]

This study also showed a significant difference between gender and EI score categories. More males from this

study (46.8%) scored in the higher category of total EI (comprising high and extremely high scores), compared to 27% females. By contrast, more females scored in the middle range EI (63.2%) versus males (45.9%). Very few students from either gender scored in the lower EI categories comprising low and extremely low EI (7.2% males and 9.8% females). Mean EI score of males was 59.9±8 and that of females was 56.9±7.3, and this difference was also statistically significant. These results were in contrast with studies from Peshawar, Pakistan, and Chennai, India, where female medical students scored significantly higher in overall emotional intelligence; similar results were seen in university students from Mardan, Pakistan.[15,16,21] No difference between genders was observed in the studies from Peshawar, Delhi, or Accra.[14,17,20]

Convenience sampling prevents this study from being generalizable. Use of different EI tests in the quoted literature made the comparisons less meaningful.

Conclusion

In this study, almost half the respondents scored in the middle range of emotional intelligence, indicating the need for improvement. While it was heartening to see very few low scores, it was disappointing to have only a third scoring in the desirable higher ranges. There is a need for regular assessment and counselling in educational institutions so those needing a helping hand can be pulled up on the road to success.

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