

ORIGINAL ARTICLE

Correlation between Emotional Intelligence and Academic Stress in Undergraduate Medical Students

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ABSTRACT

Background: Students face health-related issues and stress due to the burden of their studies. Emotions can affect one's reaction to stress; therefore, Emotional Intelligence may help overcome the adverse effects of the students' stressful situations.

Aim: To determine the correlation between emotional intelligence (EI) and academic stress in undergraduate students and compare the perceived stress and emotional intelligence scores among both genders.

Methods: A Cross-sectional Correlational study was conducted among undergraduate medical students of M Islam Medical College Gujranwala. Two hundred and ten students participated in the study. Schutte's Emotional Intelligence and perceived stress scale forms were given to participants, and their EI and stress level were measured.

Results: Totally, 116 (55.2%) of participants were females, and 94 (44.8%) were males. Perceived Stress Score was higher in females (24.5 ± 5.9) as compared to males (20.9 ± 6.2) and second-year undergraduate students (24.5 ± 6.2) as compared to first-year students (21.4 ± 6.1). No significant difference was observed in emotional intelligence scores between both genders (Males=118, Females=119), however, it was a bit higher in first-year MBBS students (122) as compared to second-year MBBS students (115). A remarkable negative correlation was found between EI and educational stress in undergraduate medical students ($p < 0.001$).

Conclusion: It is evident from our study that emotional intelligence scores and educational stress are negatively correlated. Educating students to improve EI may help prevent stress and optimize their overall wellness. Hence it is suggested to include emotional intelligence awareness workshops and training in the educational programs of the undergraduate students

Keywords: Emotional Intelligence (EI), Perceived Stress Scale (PSS), undergraduate students.

Introduction: Emotional Intelligence is "the set of abilities (verbal and non-verbal) that enable a person to generate, recognize, express, understand, and evaluate their own, and others, emotions to guide thinking and action that successfully handles the environmental demands and pressures" (Ravikumar et al., 2017). EI is a mastery that can resist stress and enhances our ability to handle environmental pressures, and in students, it can improve academic performance. Education on emotional intelligence also improves mutual ties and declines depression (Kikanloo et al., 2019).

The persons who have higher levels of EI achieve more positive life goals and successes. EI improves us mentally, psychologically, educationally, and professionally. But basic mechanisms related to EI are still undiscovered. It was suggested that EI might work as a "stress buffer." Emotionally intelligent persons tackle stressful circumstances with more positivity compared to those

with low EI. They give a response to the situation instead of a reaction. Emotionally smart people show less mood variation, less physiological and psychological provocation, and faster retrieval after facing a threat (Lea et al., 2019). The previous studies tell that emotionally intelligent individuals have strong sensations and approach to deal with stressful occasions confidently. The EI skills create people's ability to choose the right decision to deal with strain without crumpling.

Stress is deliberated as one of the key subjects in research studies for the last two decades, and noteworthy progress was seen in researchers' curiosity. Stress is the disparaging physical, mental, and emotional retort that emerges when there is a meager match between anxieties and aptitudes to cope with studies' burden. It is a situation led by suffering physical, mental, psychological, or social issues that come from one's feeling that if one cannot retort due to unexpected circumstances. When students face difficulties and changes in their daily lifestyles, they feel stressed, leading to nervousness, uncertainties, worries, and tensions. In recent literature, The fundamental reason for stress is faced when students face complications and variations in their daily tasks but could not tackle, which builds stress, uncertainties, fears, and tensions (Talib & Zia-Ur-Rehman, 2012). Students feel the demands for the course, a new atmosphere, and new people. It is for the first time, they have to live away from home, they have to handle financial, intellectual, and social challenges. The emotions involved in coping with, and the acquisition of applied clinical skills for patients. Stress has been correlated with

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Funding Source: NIL; Conflict of Interest: NIL

Received: June 26th, 2019; Accepted: November 16th, 2019

students' increased levels of depression using drugs, increased anxiety, alcohol intake, and attrition (Khan, 2018).

There are very few studies conducted on EI and revealing its relationship with academic stress. Studies have been conducted in developed countries. There is a dearth of studies done on this topic in developing countries like Pakistan. This is the need for time to develop a curriculum promoting EI in our country. To develop such a curriculum, we need to explore the EI abilities in our students to use device strategies to incorporate the undergraduate curriculum's related skills. Students in the training of professional disciplines, such as medicine or nursing programs, maybe at exposure to high-stress levels. In students, stress play a damaging role and affect them physically and psychologically. Besides common stressors, students may face stress due to disturbance in academic and personal life demands.

Considering the above-mentioned facts, we conducted a study to describe the emotional intelligence and stress level in undergraduate students and to see the correlation between the emotional intelligence score with stress level in undergraduate students as no such studies are available in our country's literature.

Methods: The study design is cross-sectional correlational, conducted at M. Islam Medical College, Gujranwala. Purposive sampling was done, and a total of 210 undergraduate medical students of first-year and second-year MBBS were included in the study to see the perceived stress and emotional intelligence scores in the early years of medical college that had mainly basic sciences. Clinical year students were excluded.

After informed consent and appropriate briefing, two questionnaires were distributed simultaneously to each participant. The first one was structured to inquire about emotional intelligence, and another questionnaire was the "perceived stress scale" for assessing participants' stress. Both the questionnaires were pre-validated. Schutte's emotional intelligence scale has 33-items on five points Likert scale. Reverse coding was used for items 5, 28, and 33, and total scale scores can range from 33 to 165 (Schutt et al. 1998). Higher scores indicate a higher level of EI. The perceived stress scale by Sheldon Cohen has 10-items on five points Likert scale. PSS score was calculated by reverse coding items 4, 5, 7 and 8, and then summing all items. Scores can range from 0 to 40, with higher scores indicating higher perceived stress levels (Andreou et al., 2011).

The data analysis was done by using SPSS version 23. Mean \pm SD was given for numeric data. Frequency and percentage were given for categorical data. The Shapiro-Wilk test assessed normality. Spearman's rho correlation test was used to determine the correlation between emotional intelligence and stress in undergraduate students. Using SPSS version 23, appropriate tests were applied for comparison of the mean score of emotional intelligence and stress score between both genders and study of the year. The P-value of ≤ 0.05 has been taken as significant.

Results: The mean age of the undergraduate students was revealed 19.8 ± 1.0 . There were 116 (55.2%) female and 94 (44.8%) males students. 105 students were from first-year, and 105 students were from second-year. A difference in perceived stress

scale score was observed between both genders and years of study. Female students had more stress scores as compared to male students as shown in Table 1 ($p < 0.001$). Similarly, second-year students had more stress scores as compared to first-year students ($p < 0.001$) (Table 1).

Table 1: Comparison of perceived stress score among gender and study of the year

Group	Mean \pm SD	Minimum	Maximum	p-value
Gender				
Male	20.9 \pm 6.2	9	35	< 0.001
Female	24.5 \pm 5.9	13	40	
Study of year				
First year	21.4 \pm 6.1	9	39	< 0.001
Second year	24.5 \pm 6.2	11	40	

There was no remarkable difference in the mean emotional intelligence score between both genders and, but it was significantly higher in the first-year students as compared to that of second-year students as shown in Table 2 ($p > 0.05$).

Table 2: Comparison of emotional intelligence among gender and study of the year

Group	Median (Inter-Quartile Range)	Minimum	Maximum	p-value
Gender				
Male	118 (101 – 127)	58	150	0.679
Female	119 (97.3 – 127)	45	150	
Study of year				
First year	122 (101 – 128)	45	150	0.258
Second year	115 (99 – 126)	58	150	

The correlation coefficient has been used to determine the correlation between emotional intelligence score and perceived stress scale score. The correlation between EI and PSS was $r = -0.285$ ($p < 0.001$). The significant negative correlation indicates that those with higher EI have lower PSS scores.

Discussion: Better EI improves our ability to control stress in a better way in our daily tasks. The emotionally intelligent individuals can handle the negative approaches in a way to express them positively, allowing people to cooperate and work together

without any clash to achieve their goals. This trait aids us to notice the stressful situations timely and nullify their negative consequences. Literature suggests that the higher the EI, the lesser will be the stress. Considering this, we should teach our students EI skills that would help them prevent stress during study or later in their careers (Ravikumar et al., 2017).

Our results show a difference in PSS between male and female students as female students have more PSS compared to males. Additionally, 2nd-year students had more stress scores as compared to 1st-year students. While mean EI scores showed no difference between genders and scores are high in first-year students. Moreover, there is a significantly negative correlation between emotional intelligence score and perceived stress scale, which means that a higher EI level lowers the PSS in students.

A similar analysis was conducted on a variety of healthcare undergraduate students, including medical, dental, and nursing students. Results revealed a negative relationship between EI and PSS, however, there was no gender difference in EI and PSS (Birks et al., 2009). These results match the findings of other studies on EI and PSS done in different fields of life. For instance, according to a study, high EI inhibits the deleterious effects of stress, and persons with low EI levels face difficulties in managing the stressful conditions (Rahim, 2010).

A study conducted in the Department of Psychology, University of Castilla revealed that EI is a predictor of personality, social anxiety, and stress level. In this study adolescents between the age of 12 and 18 years were included. The study suggested that different programs can be arranged to optimize Intra and interpersonal emotional regulation (Cejudo et al., 2018).

Enns and colleagues suggested that perceived stress scores (PSS) are correlated with emotional intelligence (EI). They related EI with higher use of cognitive and behavioral endeavors to handle stress and lower use of maladaptation, hence showing association with perceived stress (Enns et al., 2018). Jung and his colleagues studied associations among the stress and EI, EI, and intelligence quotient (IQ). Association among the cytokines and the stress, and cytokines and IQ. They measured these variables from seventy healthy samples. A significant negative correlation was found between stress and EI components including awareness, expression, and thinking. Similarly, there was a significant correlation between emotional regulation and anger. Moreover, they investigated associations between the emotional and cognitive components of intelligence. These relationships were different in persons depending upon the dominant right or left hemisphere (Jung et al., 2019).

The residency has been described as a critical stage in which intellectual problems can affect the doctor-patient relationship. Emotional intelligence (EI) is negatively correlated with stress and the individuals' psychological health. Regarding the significance and vital role of EI in medical education, and a dearth of knowledge in this group, a study was done in Iran that described the relationship between EI and stress, anxiety, and depression. The university of medical sciences in Iran revealed the fact regarding higher EI proved as a good analyst of the lower stress levels in the resident physicians (Kousha et al., 2018).

However, more EI levels may protect doctors from the hard effects of stress as they can adopt better and more buoyant strategies to handle stressful situations. EI training and educational seminars may help inhibit stress and optimize overall wellness. A study conducted by Shahid et al. in 2018 investigated the effectiveness of Educational Intervention on the EI level of physicians. Results showed positive effects of an educational intervention with EI and some other components of EI. Stress management skills and overall wellness increases with an increase in EI and related areas such as self-awareness, self-management, social awareness, and social skills (Shahid et al., 2018).

Similar research was conducted on nurses to evaluate the relation of EI with work efficiency. They suggested that emotional intelligence should be taught in professional training programs. It can relieve agony and increase people's mental satisfaction related to any profession (Jurado et al., 2019).

In China, a study was conducted to find out stress reduction strategies. They used a simple slope analysis. Over-commitment and EI were the main factors related to chronic stress and fatigue. Higher, EI levels help reduce chronic stress and fatigue in Chinese nurses (Huang et al., 2019).

Literature provides proof of the relation between EI resilience and PSS. On the contrary, there are few cross-cultural and cross-country studies on this topic. A study was done cross-culturally in American and Basque students which showed that the EI has a role as a negative forecaster of the perceived stress among American and Basque students. Students with higher scores of emotional intelligence had a high level of resilience. They told that perceived stress scores were lower in university students who have better EI levels; hence, intervention programs can improve students' EI levels (Sarrionandia et al., 2018) both concepts being adversely related to perceived stress. Nevertheless, there is little evidence from cross-cultural and/or cross-country studies of the simultaneous relationship between these psychological variables. The objective of this study was to address this lack of research, examining the associations between emotional intelligence, resilience and perceived stress in a cross-country context. A total sample of 696 undergraduate students from two universities in the United States and the Basque Country (an autonomous community in northern Spain).

A study was done on university teachers in Spain to explore perceived stress and EI. Results revealed that stress relates positively with emotional exhaustion and negatively with personal fulfillment. Results showed that better emotionally intelligent teachers perform better in their profession than others (Puertas-Molero et al., 2018) the dimensions of burnout syndrome, emotional intelligence, and non-verbal communication in a sample of university teachers. A total of 1316 teachers from Spain, aged between 24 and 70 years ($M = 45.64$, $SD = 10.33$).

There are many research pieces in which EI has been studied and discussed in two types: ability emotional intelligence (AEI) and trait emotional intelligence (TEI), but findings are still not finalized. To explore "stress-buffering" Lea and his colleagues systematically reviewed experimental studies discussing the relation between EI and recovery from a high level of stress. After

searching four databases and many related studies, they concluded that EI is only effective in certain perspectives and types of stressors may affect EI too. These findings may have consequences for training programs on emotional intelligence (Lea et al., 2019).

The main reasons for stress in students may include study pressure, unorganized and huge curriculum, fewer support services in their institutes, etc. (Bawakid et al., 2017). Efforts must be made to devise strategies to prevent and treat this condition so the healthcare environment can be improved (Siddiqui et al., 2018).

Research findings have implications for future research and educational practice considering combined prevention programs for one's health and well-being (Schoeps et al., 2019) this study examined whether perceived stress mediates the interplay of emotional intelligence and life satisfaction for girls and boys during early and middle adolescence. **METHODS:** Using multigroup structural equation modeling with questionnaire data from a sample of Spanish adolescent students (N = 800; M Age T1 = 14.02, M Age T2 = 15.00, SD = 1.21).

Limitations: More studies can be conducted on multiple institutions and comparisons between the EI in the first year and final year students. The increased level of stress among undergraduate students may be due to many other factors that couldn't be considered in this study, such as personal and family matters, physical illness, social behaviors, economic and financial burdens, political situations, etc. These factors can be added in further studies on the same topic in Pakistan. More studies are required to find a way towards improving emotional intelligence and stress levels in the students as they are future professionals.

Conclusion: There is a significant negative correlation between EI and PSS. Hence, Emotional Intelligence awareness and training programs for Undergraduate Students may play a constructive role in reducing stress levels and optimize their overall wellness.

The current medical curriculum in Pakistan does not promote improvement in EI. We need to incorporate essential traits required to inculcate EI qualities in our undergraduate students. Medical Educationists can develop the strategies to develop a curriculum enhancing emotional intelligence in medical students so they can meet the expectations of our society.

Declaration of Interest: None

Author's contributors: Shazia Jamil: Conception and design of the work; the acquisition, analysis, & interpretation of data from the work, initial draft of manuscript

Sohail Jamil: Drafting the work & revising it critically for important intellectual content

Muhammad Saif Ullah: Critical Review & final approval

Acknowledgements: The authors would like to thank Dr. Usman Mahboob for his constructive guidance throughout the

study.

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