Original Research

EMOTIONAL INTELLIGENCE AND ACADEMIC PERFORMANCE : A CROSS–SECTIONAL STUDY AMONG MEDICAL STUDENTS

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ABSTRACT

Introduction: The evaluation of Emotional Intelligence is an important factor in determining medical students' academic performance. As a result, the study was carried out to compare the relationship between Emotional Intelligence score and academic performance in undergraduate medical students. **Methods:** A cross-sectional study was conducted among 346 undergraduate medical students and Schutte scale was used to assess their Emotional Intelligence through Google form during the period between July 2021 to January 2022. Academic achievement was assessed based on each student's self-reported grade point average in the most recent examination. **Results :** Out of 346 study participants,3% had low Emotional Intelligence, 29% had moderate Emotional Intelligence, 68% had high Emotional Intelligence. A significant association was identified between Emotional Intelligence and Academic Performance, Grade, Gender, Career choice. No statistically significant association was observed between Emotional Intelligence and Year of study of participants. **Conclusion:** The participants' academic performance was strongly associated with their Emotional Intelligence scores. Emotional intelligence (EI) refers to the ability to comprehend and control emotions, to be empathetic, to be socially competent, and so on. These abilities increase overall communication skills, which improves achievement in medical school.

Keywords: Medical Undergraduates, Academic Performance, Emotional Intelligence

Introduction:

Emotional Intelligence is defined as "The ability to monitor one's own and other people's emotions, to discern between different emotions and label them appropriately, and to use emotional information to drive thought and behaviour"(Romanelli 2006). Self-awareness, Self-Regulation, Empathy, Motivation, and Social Skill are the five general components of emotional intelligence(Goleman 1995). The first component of EI is self-awareness, which is defined as the ability to perceive and understand our own needs, emotions, and impulses, as well as their impact on others. The skills described within this ability are self-confidence, realistic self-evaluation, and a self-depreciating sense of humor. It entails being honest with ourselves and others, as well as an awareness of one's own emotions, strengths, shortcomings, and motivations. The ability to manage or redirect disruptive emotions and moods is known as self-regulation. It also encompasses the ability to hold one's judgement and reflect before acting. Trustworthiness and integrity, as well as comfort with uncertainty and openness to change, are all hallmarks of self-regulation. Motivation is a desire to labor for reasons other than financial gain. Motivation is also the ability to view goals with vigor and perseverance. Empathy is the ability to understand other people's emotional makeup and treat them as a result of their emotional reactions. In the case of leadership, empathy does not imply adopting other people's emotions and attempting to please everyone. Social skills are managing relationships and forming networks. The capacity to discover common ground and establish rapport is also a social skill(Goleman 1995).

There are a variety of elements that influence students emotional intelligence and academic achievement, ranging from kindergarten to university level learning institutions. Numerous studies conducted over a long period of time have revealed a range of elements including student personality, motivation, peer relationships, IQ, teacher-student relationships, parental engagement, and socioeconomic status. Intelligent Quotient (IQ) had been widely employed as a factor and connected with an individual's academic success(Spear 2015). The famous book "Emotional Intelligence: Why It Can Matter More Than IQ," Daniel Goldman (1995) contends that only 20% of a person's achievement can be linked to IQ. IQ alone is not a reliable predictor of students' academic performance, according to a growing number of recent and emerging studies (Tripathy 2018).

Though Salovey and Mayer introduced the concept of EI, it should also aid in the development of stronger relationships, job satisfaction, and career achievement all of which are important components of EI goals(Goleman 2003). Based on Salovey and Mayer's model, Schutte's emotional Intelligence scale was formed which mainly includes three aspects of Emotional Intelligence such as Appraisal and Expression of emotion(self and other), Regulation of emotion (Self and Other) and Utilization of emotion (Creative thinking, Planning, Motivation and Redirected attention)(Craggs 2021) .Though the medical curriculum provides wonderful opportunities to try something new, undergraduate medical students will face a number of challenges when it comes to interpersonal and intrapersonal relationships(Brackett 2011). Building self-confidence in students can help them achieve and maintain a positive attitude in the face of emotional outbursts and stress in their curriculum(Altwijri 2021). To develop a good social competency in students, one must establish good social relationships with others as teenagers are the

greatest treasure of the country's development. As a result, enormous psychological support must be provided to them.

Many studies were conducted to assess the effect of EI on work performance, but only very few studies were done on the effect of EI on academic performance. Most of the studies showed a significant relationship between EI and academic performance. Hence, the purpose of this study was to estimate the level of EI and to find out the association between EI and academic performance among undergraduate medical students and house surgeons.

Methods:

After receiving approval from the Institutional Research and Ethics Committee, a cross-sectional study was done among second year, final year part I, final year part II MBBS students and house surgeons of Aarupadai Veedu Medical College and Hospital in Puducherry. House surgeons were included in the study because they had recently passed out their final year part II examinations. Universal sampling method was used, we included all the students from first year to internship students and sample size of 346 where were consented for the study included and those did not give consent were excluded from the study during July and Aug 2021(2 months)

After obtaining Aarupadai Veedu medical college and hospital IRC and IEC clearance, data was collected via Google form that was sent to each batch's WhatsApp groups. Consent for participation in the study and questionnaire are included in the Google form. To promote active involvement by undergraduate students, all undergraduates were explicitly informed about the study's aim and objectives before beginning the questionnaire, and any questions concerning the study were answered in a succinct and satisfying manner. Name, age, gender, parents' education, occupation, length of stay, year of study, and previous year's attendance are all included in this questionnaire. Schutte's Emotional Intelligence Scale, a highly validated scale with an internal consistency of Cronbach's alpha of 0.90 and test retest reliability was (r=0.78)(Schutte 1998). The Schutte scale has 4 components according to derivation from the Mayer and Salovey model of emotional intelligence in which those 33 items were developed by Schutte NS ; they are A) Emotion perception (5,8,9,15,18,25,27,29,32) B) Utilization of emotion (17, 20, 23), C) Managing others' emotions (1,11,24,26) and D) Managing one's own emotions (3,21,22,28,31) and remaining were Uncategorized (2,4,6,7,10,12,13,14,16,19,30,33)(Musonda 2013).The Likert scale was used to grade the scale [1-strongly disagree, 2- disagree, 3- neither disagree nor agree, 4- agree, 5-strongly agree]. The scoring for questions 5, 28 and 33 had been reversed. EI scores were classified as low (33-77), moderate (78-121), and high (122-165)(Unnikrishnan 2015). To ensure the highest possible response rate, a friendly reminder was sent to the students three times after providing the link via Google Forms via WhatsApp groups. Questionnaires with missing or incomplete data were excluded from the analysis. Finally, out of 400 students, 346 agreed to participate in the current study, which included 94 from the second year, I87 from the final year part I, 94 from the final year part II, and 71 from the CRRI. The collected data were analysed using SPSS version 20.0. Qualitative data were summarized as frequency and percentages. Chi-square test or Fisher’s exact

test was used to find the association between EI and different qualitative data. The P value less than 0.05 was considered as statistically significant.

Results: The mean age of the study participants was 21.93 ±3.03. Nearly 50% of the study participants were aged above 21 years (53.2%). Out of 346 participants, with the females were out numbering the males (51.7%). The majority of students (80.6%) had chosen their career choice on their own.

Table 1: Distribution of Study Participants based on their Baseline Characteristics (n=346)

Variable	N (%)
Age of participants	
18-21	162 (46.8)
Above 21	184 (53.2)
Gender	
Male	167 (48.3)
Female	179 (51.7)
Year of study	
2nd year	94 (27.2)
3rd year	87 (25.1)
4th year	94 (27.2)
House Surgeons	71 (20.5)
Career choice	
Family members	67 (19.4)
Self	279 (80.6)
Grade	
Distinction	31 (9)
First class	219 (63.3)
Second class	76 (22)
Fail	20 (5.8)

In this figure, the majority (68 percent) had high Emotional Intelligence, 31 percent had moderate Emotional Intelligence, and 1 percent had low Emotional Intelligence.

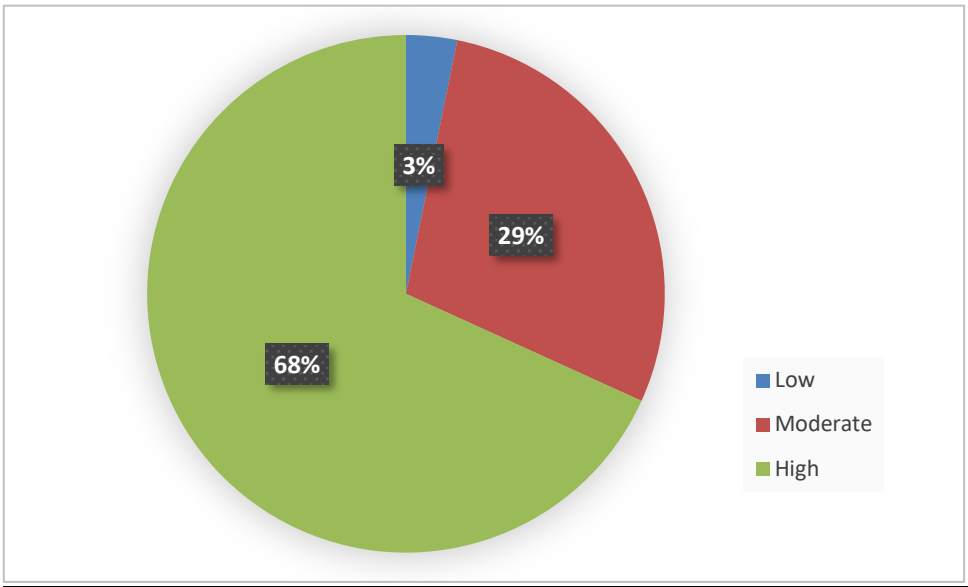

Figure: 1 Distribution of study participants based on emotional intelligence level

Table 2: The baseline characteristics such as gender (p=0.011), Career Choice (0.001) and Grades (0.001) had significant association with Emotional Intelligence but year of study (p=0.817) had no significant association with Emotional Intelligence. More number of females had high Emotional Intelligent (75.4%) when compared to males. The students who had chosen the Carrier choice by self (71%), had significantly higher Emotional Intelligence. Fig 1: Distribution of study participants based on the EI scores

Table 2: Association between Emotional Intelligence and Baseline Characteristics of Study Participants (n=346)

Baseline Characteristics	**Emotional Intelligence**			**p value**
	Low- N (%)	Moderate- N (%)	High- N (%)	
Gender				
Male	6 (3.6)	60 (35.9)	101 (60.5)	0.011*
Female	5 (2.8)	39 (21.8)	135 (75.4)	
Year of Study				
2 nd year	4 (4.3)	24 (25.5)	66 (70.2)	0.817
3rd year	3 (3.4)	27 (31)	57 (65.5)	
4th year	3 (3.2)	24 (25.5)	67 (71.3)	
House Surgeons	1 (1.4)	24 (33.8)	46 (64.8)	
Career choice				
Family members	7 (10.4)	22 (32.8)	38 (56.7)	<0.001*
Self	4 (1.4)	77 (27.6)	198 (71)	

Grade				
Distinction	1 (3.2)	4 (12.9)	26 (83.9)	<0.001*
First class	2 (0.9)	60 (27.4)	157 (71.7)	
Second class	1 (1.3)	30 (39.5)	45 (59.2)	
Fail	7 (35)	5 (25)	8 (40)	

Discussion:

"The capacity to recognize our own feelings & others feelings, to motivate ourselves and to manage emotions properly in ourselves and our relationships", Goleman(2003) says of Emotional Intelligence. Our study mainly aimed at how mental ability affects the academic performance of undergraduate medical students using the standardized Schutte's scale we are primarily interested in how mental ability influences undergraduate medical students' academic success. Students confront a variety of numerous positive and negative challenges faced by the students during their medical curriculum and it is critical for them to understand how to control and manage their emotions in order to do well academically to perform better in academics and to maintain a pleasant doctor-patient relationship(Altwijri 2021).

Females had greater EI than males in the current study. Similar findings were shown in studies conducted by Nahla Khamis Ibrahim(2017) in Saudi Arabia in 2017 among 540 medical students and a by Parvathy RS (2009) in July 2019 among 368 medical students in Kerala and also in Baskaran Unnikrishnan et al[11] study in Mangalore with 532 participants. The current study discovered that EI scores improved with age, which is consistent with various studies(Unnikrishnan 2015; Ibrahim 2017; Parvathy 2009) However, Ranasinghe (2017) in Sri Lanka among 471 medical undergraduates discovered that EI scores did not improve with age. Carrier choice and EI scores were found to have a significant relationship (p=0.001) which was consistent in a study conducted by Baskaran Unnikrishnan (2015) and Magna Manjareeka (2020) in Odisha among 522 medical students**.** There was a significant relationship between grades and EI (p=0.001), comparable to the findings of Baskaran Unnikrishnan (2015), Ranasinghe (2017), and Nahla Khamis Ibrahim(2017) in their studies. However, there was no relationship between Emotional Intelligence and grades, according to Sulaiman Altwijri (2021) among Saudi Arabian medical students in 2017 and similar findings were concluded by Magna Manjareeka (2020). However, no significant relationship found between year of study and EI was identified in our study, which was not reported in other studies.

Our research was based on self-reporting questionnaires. However, self-rated surveys may have a bias in reporting, performance-based exams may be a better indicator of EI. In our study population, higher EI was associated with satisfaction with one's professional course as well as one's career choice (Manjareeka 2020). Importantly, this cross-sectional study limits the inference of causality for the components linked to EI (Alwijri 2021). To strengthen the findings of the current study, a follow-up study could be conducted.

Conclusion:

The results of our research reveal that EI has a significant impact on medical students' academic performance. As a result, teaching medical students about EI, either as part of their regular curriculum or through workshops, should be considered. To have a better knowledge of the impact of EI on student performance, more study should be done in this area.

Conflicts of Interest

The author declares no conflicts of interest.

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