

Association Between Emotional Intelligence Scores and Academic Performance in Medical College Students: A Tertiary Care Center Study in Perundurai, Tamil Nadu

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Abstract:

Emotional Intelligence has become an area of significant interest in educational psychology, highlighting its role in academic success and personal development. This study investigates the relationship between Emotional Intelligence Scale scores and educational outcomes among college students. Using a sample of 171 medical students from various years, the research explores how Emotional Intelligence influences academic performance, student engagement, and overall well-being. The results suggest that students are having Emotional Intelligence Scale score is 44.84%. a positive correlation between high Emotional Intelligence scores and superior educational outcomes, emphasizing the importance of developing Emotional Intelligence skills in higher education

Key words: Emotional Intelligence, Academic Performance, well-being, college students

Introduction:

Emotional Intelligence, defined as the ability to identify, understand, and manage one's own emotions and the emotions of others, is increasingly recognized as a critical factor in personal and professional success. This multifaceted construct encompasses skills such as self-awareness, self-regulation, empathy, and social skills, all of which can significantly impact an individual's overall well-being and achievement. For college students, navigating the academic environment and social dynamics requires a high level of emotional competence. Previous research has shown that higher Emotional Intelligence is associated with better stress management, improved interpersonal relationships, and enhanced academic performance.[1-2].

Research indicates that students with higher levels of emotional intelligence tend to exhibit improved academic performance, better problem-solving skills, and enhanced ability to manage stress and anxiety[3-5].

Several studies have explored the relationship between emotional intelligence and academic achievement. Jaeger's study found a significant correlation between emotional intelligence and academic performance, particularly among students who received emotional intelligence curriculum[6]. Similarly, Jaeger and Eagan's research involving over 3,500 first-year university students identified interpersonal skills, stress management, and adaptability as key predictors of academic success[7].

The literature also suggests that emotional intelligence can influence various academic activities, such as library usage and management of academic anxieties[8]. Recognizing the importance of emotional intelligence, academic institutions are increasingly incorporating emotional intelligence training into their curricula to support student development[9].

AIM OF THE STUDY:

This study aims to examine the relationship between Emotional Intelligence Scale scores and educational outcomes in a college setting. Emotional intelligence has emerged as a critical factor in individuals' personal and academic development. Research indicates that students with higher levels of emotional intelligence tend to exhibit improved academic performance, enhanced problem-solving skills, and better overall well-being, including increased motivation, resilience, and adaptability to the demands of higher education.

MATERIALS AND METHODS:

Patients This cross-sectional study was conducted via online survey among 171 medical students aged between 18 and 22 years during the period April–May 2023. After obtaining online consent, we collected data assessing students' sociodemographic details, Emotional Intelligence Scale (EIS) by Hyde scales of self-explained questionnaires. The link to the online

survey was shared to medical students in medical colleges in the Erode district of Tamil Nadu. Those who are willing to give online consent and students studying MBBS Erode were included in this study, whereas other districts of Tamil Nadu students, not willing to take part in this study, and other non health-care students (like Arts and Science, Engineering, etc.) were excluded from this study. The Google Form online questionnaire was sent to the students via an online platform. Students pursuing MBBS and nursing in the Erode region of Tamilnadu were contacted via WhatsApp and E-mail and interviewed after receiving permission from their respective college.

Based on a review of the literature, the questionnaire applied in this study was designed. The participants were informed that their responses would be kept private and confidential. The questionnaire was created to decrease survey fatigue and was reviewed by the experts in survey research for face validity. The final version of the questionnaire required 5–10 min of time approximately to complete. Sociodemographic information includes age, sex, religion, type of family, place of living, educational qualification, Recent Academic Performance from college records and monthly family income. The first part of the online Google Form survey contained the information regarding participants' demographic details, course, college, year of study, and socioeconomic status.

Emotional Intelligence Scale (EIS) by Hyde, et al., (2001) is a standardised scale which consisted of 34 items having correlation less than the value of 0.25 ($P < .01$). It is a self-report measure of emotional intelligence. Participants have to make responses in a 5-point Likert scale from strongly agree to strongly disagree. The factors and the corresponding items of emotional intelligence scale is presented below: Min=1 Max=5 Total questions=34 Total score=170. Emotional Intelligence Scale (EIS) by Hyde, et al., (2001) is a widely used self-report measure of EI. The EIS assesses various dimensions of emotional intelligence, including emotional awareness, regulation, and utilization, providing a comprehensive profile of an individual's emotional competence.

In each category, demographic variables were presented in frequency with percentages. The mean, median, and standard deviation of the Emotional Intelligence Scale and academic performance scores were provided. The Chi-square test was used to examine the relationship between demographic factors and ESI and academic performance. The mean difference is significant at the 0.05 level. The results were evaluated within a 95% confidence interval, and significance was determined with a probability level of less than 0.05. The data were analyzed using Statistical Package for Social Sciences for Windows, Version 22 (IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp. IBM Corp.).

This study was done in accordance with the Declaration of Helsinki and approved by Institutional Ethics Committee, Government Erode Medical College in Perundurai.

RESULTS:

A total of 171 students participated in this study. Mean age of the study participants was

19.30±0.95 years of age, minimum age 18 and maximum age of participants was 22. Male mean age was 19.31±0.90 years and female mean age was 19.30±0.98 years. The study surveyed 171 students: 64.33% female and 35.67% male. Ages were mostly 19-20 years. Birth order was predominantly eldest (41.52%) and youngest (35.67%). Most had one sibling (60.82%). The majority were Hindu (88.30%) and from nuclear families (77.78%). Parents' education was primarily undergraduate/postgraduate (46.78%), with 45.03% government employees. Students mostly lived in urban (37.43%) and rural (36.84%) areas and were in their first year (92.98%). Family income varied, with 30.41% earning Rs.21,000-40,000 monthly (table 1).

Table 1: DEMOGRAPHIC VARIABLES of study participants

Demographic variables		Number of students	%
Sex	Male	61	35.67%
	Female	110	64.33%
Age	18 years	37	21.64%
	19 years	61	35.67%
	20 years	63	36.84%
	>20 years	10	5.85%
No. of Siblings:	Nil	29	16.96%
	One	104	60.82%
	Two	29	16.96%
	Three and above	9	5.26%
Religion:	Hindu	151	88.30%
	Christian	14	8.19%
	Muslim	6	3.51%
Type of Family:	Nuclear family	133	77.78%
	Joint family	25	14.62%
	Extended family	13	7.60%
Place of living:	Rural	63	36.84%
	Semi urban	44	25.73%
	Urban	64	37.43%
Year of study	I st year	159	92.98%
	II nd year and above	12	7.02%
Monthly family income Rs:	< Rs.10000	14	8.19%
	Rs.11000-20000	23	13.45%
	Rs.21000-40000	52	30.41%
	Rs.41000-60000	31	18.13%
	Rs.61000-90000	25	14.62%

	>Rs90000	26	15.20%
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Figure 1 shows students are having more score for the domain empathy 45.84% and they are having minimum score for the domain Commitment 43.20%. Overall Emotional Intelligence Scale score is 44.84%.

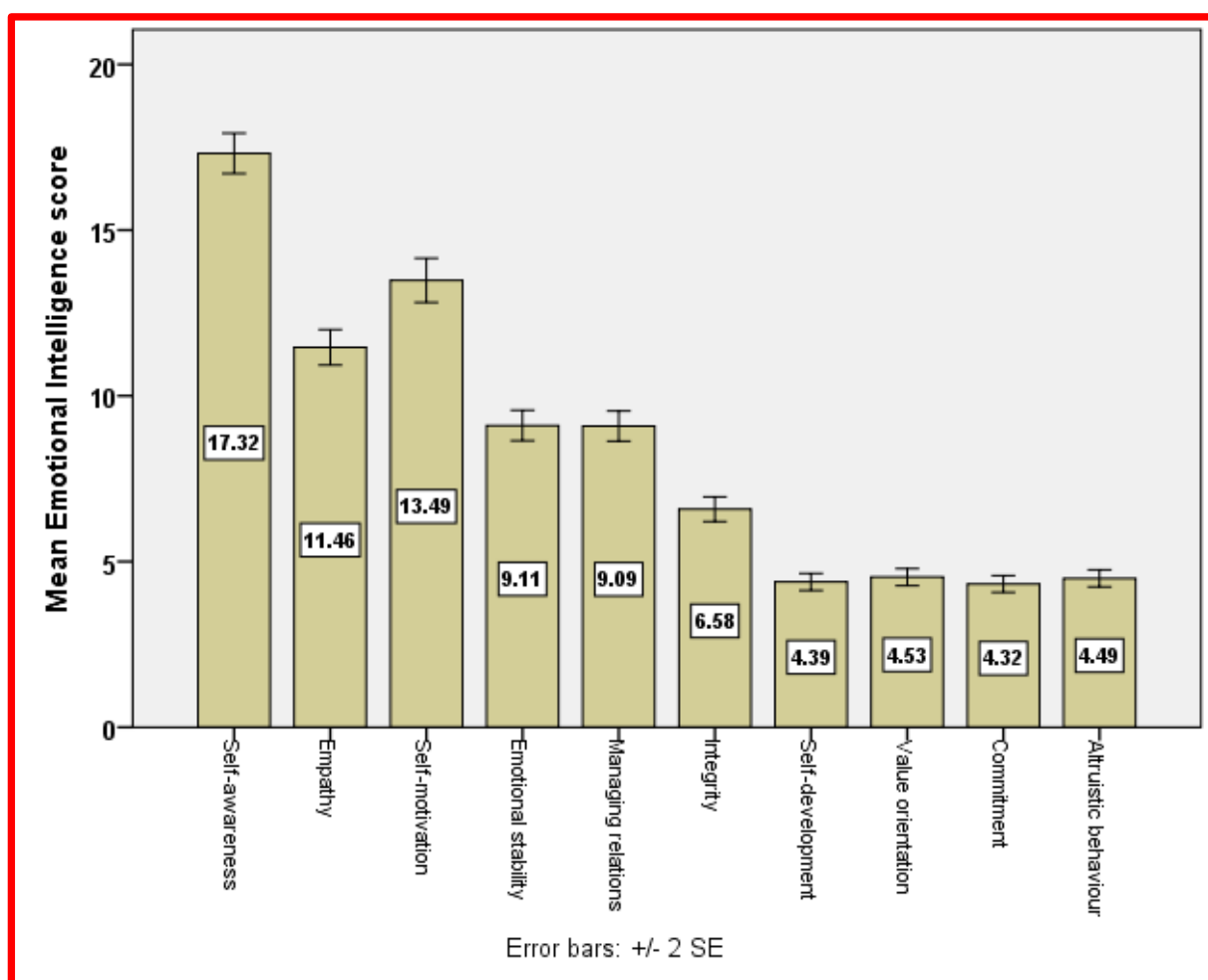


Fig 1: Simple bar with 2 standard error bar diagram compares the domain wise emotional intelligence score among students

The study examined the association between Emotional Intelligence (EI) scores and various demographic variables among students. The results showed no significant difference in EI scores based on sex, with males scoring a mean of 77.70 (SD = 21.10) and females 75.41 (SD = 25.13), $t=0.60$, $p=0.55$. Age also did not significantly affect EI scores, with mean scores ranging from 75.83 to 77.46, $F=0.04$, $p=0.99$. Birth order showed a significant difference

($F=2.66$, $p=0.05$), with the youngest scoring the highest (82.10) and the eldest the lowest (70.92). Number of siblings also showed a significant difference ($F=2.67$, $p=0.05$), with those having three or more siblings scoring the highest (82.78) and those with no siblings the lowest (67.10).

Religion, type of family, and parents' education level did not show significant associations with EI scores, with p-values of 0.75, 0.77, and 0.94, respectively. Parents' employment status showed no significant difference in EI scores ($F=1.10$, $p=0.35$), although housewives' children had the highest mean EI score (86.90). The place of living, course of study, and year of study also did not show significant differences in EI scores, with p-values of 0.93, 0.53, and 0.65, respectively. Lastly, monthly family income showed no significant association with EI scores ($F=0.92$, $p=0.46$), despite some variations in mean scores across different income brackets.

Table 2: Association Between Emotional Intelligence Scores and Students' Educational Outcomes

Marks Range	Mean EI Score	Standard Deviation (SD)	Number of Students (n)	ANOVA Result:
< 60	82.38	19.69	42	F = 3.05, p = 0.05 (Significant)
61 - 80	75.59	23.28	81	
81 - 90	73.84	26.38	31	
91 - 100	68.41	28.26	17	

The analysis aimed to determine if there is a significant difference in Emotional Intelligence (EI) scores based on the aggregate percentage marks scored in the last departmental internal examination. The table 2 shows data indicates a significant association between the aggregate percentage marks scored in the last departmental internal examination and Emotional Intelligence scores. Specifically, students scoring below 60% tend to have higher EI scores, whereas those scoring between 91-100% tend to have lower EI scores. This suggests that EI may play a role in the academic performance of students, particularly in their internal assessments.

DISCUSSION:

The present study found a significant positive correlation between Emotional Intelligence Scale scores and academic performance among the 171 medical college students in Perundurai, Tamil Nadu. Current study results are in line other studies .[10-12]) Reserachers found that Participants with higher Emotional Intelligence Scale scores demonstrated better academic outcomes, including higher grade point averages, enhanced problem-solving skills, and improved overall well-being.

The findings of this study reinforce the growing body of evidence that Emotional Intelligence plays a crucial role in academic success and personal development.[13] Students with higher levels of Emotional Intelligence exhibit enhanced self-awareness, self-regulation,

empathy, and social skills, all of which contribute to their ability to navigate the challenges of the academic environment effectively.

These findings have important implications for educational institutions, highlighting the need to incorporate Emotional Intelligence development into the curriculum. By fostering the growth of Emotional Intelligence skills, such as emotional self-awareness, emotional regulation, and interpersonal skills, colleges and universities can support their students' overall well-being and enhance their academic performance.

The findings of this study align with prior research, which has consistently underscored the significance of emotional intelligence in facilitating academic success and personal development. The results underscore the importance of educational institutions prioritizing the cultivation of emotional intelligence skills among their students, as it can contribute to enhanced academic performance, strengthened interpersonal relationships, and improved stress management.[14-17]

CONCLUSION:

This study provides compelling evidence for the association between Emotional Intelligence and academic performance among medical college students in Perundurai, Tamil Nadu. The results underscore the importance of addressing Emotional Intelligence as a crucial component of holistic student development in higher education. By nurturing Emotional Intelligence skills, educational institutions can empower their students to achieve greater academic success, foster stronger interpersonal relationships, and cultivate a greater sense of overall well-being.

Implications for Practice

Educational institutions should consider incorporating EI development programs into their curricula. Enhancing students' emotional skills can potentially lead to improved academic performance, greater engagement, and better overall well-being. Interventions such as EI training workshops, mindfulness practices, and peer mentoring could be effective strategies.

Limitations:

This study's limitations include its reliance on self-report measures and the cross-sectional design, which precludes causal inferences. Future research should employ longitudinal designs and include diverse student populations to validate and extend these findings.

Future research should explore the specific mechanisms through which Emotional Intelligence influences academic performance and investigate the long-term impacts of Emotional Intelligence on personal and professional development.

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Conflicts of interest: There are no conflicts of interest.

Ethical statement:

Institutional ethical committee accepted this study. The study was approved by the institutional human ethics committee, Government Erode Medical College in Perundurai . Informed written consent was obtained from all the study participants and only those participants willing to sign the informed consent were included in the study. The risks and benefits involved in the study and the voluntary nature of participation were explained to the participants before obtaining consent. The confidentiality of the study participants was maintained.

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Authors' contributions:

Authors' contributions: All author equally contributed for concept, data collection, statistical analysis, writing manuscript, review and publication.

DATA AVAILABILITY:

All datasets generated or analyzed during this study are included in the manuscript.

INFORMED CONSENT:

Written informed consent was obtained from the participants before enrolling in the study

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