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THE ROLE OF EMOTIONAL INTELLIGENCE IN ACADEMIC PERFORMANCE: A BEHAVIORAL APPROACH

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Abstract:

Background: Academic performance in educational settings is traditionally evaluated through cognitive competencies, such as memory, problem-solving, and analytical reasoning. However, emerging behavioral research emphasizes the significance of non-cognitive skills especially Emotional Intelligence (EI) in shaping academic outcomes. Emotional Intelligence, defined as the ability to perceive, understand, manage, and regulate emotions in oneself and others, has been shown to influence motivation, stress management, interpersonal relationships, and decision-making, all of which are crucial in academic settings. Despite increasing global interest, the behavioral dimensions of EI and their direct relationship with students' academic success remain underexplored, especially in diverse socio-cultural educational contexts. This study attempts to bridge this gap by adopting a behavioral approach to investigate the predictive role of EI in academic performance among medical students.

Objectives: The objective of this study was to evaluate the relationship between emotional intelligence and academic performance using a behavioral framework.

Methodology: This descriptive cross-sectional study was conducted to examine the relationship between emotional intelligence and academic performance among undergraduate medical students. The research adopted a behavioral framework to assess how components of emotional intelligence including self-awareness, self-regulation, motivation, empathy, and interpersonal skills relate to academic success. The study was carried out in a M Islam Medical and Dental College in Pakistan between January to April 2025.

Results: The sample consisted of 200 students, comprising 112 females (56%) and 88 males (44%), with a mean age of 21.4 ± 1.7 years. Based on academic results, 146 students (73%) obtained First Division (≥ 60%)**,** while 54 students (27%) fell into the Second Division (50–59%) category. The overall mean emotional intelligence score was 129.5 ± 12.4, with students in the First Division demonstrating notably higher EI levels compared to those in the Second Division.
Conclusion: This study confirms a significant positive association between emotional intelligence and academic performance among medical students. Higher scores in key EI domains, especially motivation and self-regulation were linked to better academic outcomes. These findings highlight the importance of integrating emotional intelligence into medical education to support both academic success and professional growth.

Keywords: Emotional Intelligence, Academic Performance, Behavioral Psychology, Self-Regulation, Student Motivation, Higher Educational Outcomes, Stress Management, Social Skills

Introduction

Academic achievement has long been regarded as a measure of intellectual prowess, often quantified through standardized testing and cognitive assessments. Traditional paradigms of education and success have emphasized intelligence quotient (IQ), logical reasoning, and analytical thinking as primary predictors of scholastic outcomes. However, an emerging body of interdisciplinary research challenges this view by highlighting the substantial role of non-cognitive factors particularly Emotional Intelligence (EI) in determining academic success. Emotional Intelligence, conceptualized as the ability to perceive, understand, regulate, and utilize emotions in oneself and others, is increasingly being recognized as an essential component of effective learning, personal growth, and professional achievement[1, 2].

The concept of Emotional Intelligence was popularized by Daniel Goleman in the mid-1990s, who argued that emotional competencies could be more significant than cognitive intelligence in achieving personal and academic goals. EI includes a range of skills such as emotional awareness, self-regulation, empathy, motivation, and social interaction—all of which are deeply rooted in human behavior. These skills influence how individuals handle interpersonal relationships, cope with stress, adapt to changing environments, and maintain focus on long-term goals. In academic settings, these attributes are particularly relevant, as students must continually navigate peer dynamics, institutional expectations, emotional challenges, and self-discipline in pursuit of their educational objectives[3, 4].

Within the behavioral sciences, Emotional Intelligence has been examined through a variety of lenses—psychological, neurological, and sociocultural. A behavioral approach, however, offers a unique vantage point by focusing on observable patterns and actions that stem from emotional processes. For instance, a student with high EI may demonstrate better classroom engagement, effective stress management, and constructive communication with peers and instructors. Conversely, students with low EI may struggle with procrastination, emotional reactivity, or interpersonal conflict, all of which can hinder academic performance. Thus, emotional intelligence is not just an internal capacity; it is reflected in a person's consistent behaviors and responses in academic contexts[5].

Research supports the notion that emotional competencies are associated with a range of positive educational outcomes. Several empirical studies have found that students with higher EI tend to exhibit greater academic motivation, better study habits, lower test anxiety, and more resilient coping strategies. Furthermore, EI has been linked with improved classroom participation, collaborative learning, and leadership in group settings. These findings suggest that beyond intellectual ability, the emotional and behavioral attributes of students play a critical role in how they learn, relate, and succeed[6, 7].

Despite this growing evidence, there remains a lack of consensus regarding the precise mechanisms through which Emotional Intelligence influences academic performance. While theoretical models propose that EI supports academic success by enhancing self-regulation and social cohesion, empirical investigations often lack the integration of behavioral analysis, leading to gaps in understanding. Moreover, much of the existing literature relies on self-reported measures of EI,

without triangulating data with objective behavioral indicators. This limits the scope and applicability of findings, especially across diverse educational environments[8].

In this context, the present study aims to explore the role of Emotional Intelligence in academic performance through a behavioral lens. Specifically, it seeks to investigate how various dimensions of EI such as emotional self-awareness, regulation, empathy, motivation, and social skills manifest in students' observable behaviors that contribute to or hinder their academic achievement. By incorporating behavioral observation alongside self-assessment tools and academic records, this study endeavors to provide a more comprehensive and empirically grounded understanding of the EI-performance nexus[9, 10].

The relevance of this inquiry is heightened in today's educational landscape, where students face increasing psychological pressures, competitive demands, and social challenges. The COVID-19 pandemic, for example, further exposed the vulnerability of students to stress, isolation, and emotional dysregulation, which adversely affected learning outcomes globally. These developments underscore the urgency of recognizing emotional and behavioral competencies as integral components of educational success and well-being[11].

Moreover, understanding the behavioral dimensions of EI has practical implications for curriculum development, student counseling, and institutional policy-making. If emotional competencies can be systematically linked to academic success, then educational institutions may benefit from designing interventions, workshops, and support systems that nurture these traits. Such initiatives could contribute to creating more emotionally intelligent learning environments, where students are equipped not only with knowledge but also with the emotional tools to apply it effectively[12].

In sum, this study attempts to contribute to the growing field of emotional intelligence in education by offering a behavioral perspective on how EI interacts with academic performance. It seeks to answer critical questions: To what extent does Emotional Intelligence predict academic achievement? Which emotional and behavioral traits are most influential? How can educational settings foster emotional competencies to enhance learning outcomes? By addressing these questions, the study aspires to enrich both theoretical understanding and practical strategies for optimizing academic success through the cultivation of emotional intelligence[13].

Methodology

This descriptive cross-sectional study was conducted to examine the relationship between emotional intelligence and academic performance among undergraduate medical students. The research adopted a behavioral framework to assess how components of emotional intelligence including self-awareness, self-regulation, motivation, empathy, and interpersonal skills relate to academic success. The study was carried out in a M Islam Medical and Dental College in Pakistan between January to April 2025. A total of 200 MBBS students were recruited using stratified random sampling to ensure equal representation from all five academic years, with 40 participants selected from each year. Participants were included based on the availability of complete academic records from the most recent annual university examination and their willingness to participate voluntarily. Students with a history of diagnosed psychiatric illness, ongoing cognitive impairment, or use of medications affecting mood or cognition were excluded. Emotional intelligence was measured using the Schutte Self-Report Emotional Intelligence Test (SSEIT), a validated 33-item instrument grounded in the Salovey and Mayer model. Each item was rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), yielding total EI scores between 33 and 165. The SSEIT captures five subdomains of emotional functioning self-awareness, self-regulation, motivation, empathy, and interpersonal social skills. In the current study, the reliability of the instrument was confirmed with a Cronbach's alpha coefficient of 0.89. Academic performance was assessed based on the percentage scores obtained by students in their most recent professional university examination. These were categorized according to the standard institutional criteria into First Division (≥ 60%) and Second Division (50–59%). Academic records were retrieved from the college's examination department with the consent of participants. Data were analyzed using SPSS version 26. Descriptive statistics (mean, standard deviation, frequencies) were used to summarize participant characteristics and EI

scores. Inferential analyses, including independent samples t-tests and Pearson correlation coefficients, were conducted to examine group differences and associations between EI and academic achievement. A p-value of less than 0.05 was considered statistically significant.

Results:

The final sample consisted of 200 students, comprising 112 females (56%) and 88 males (44%), with a mean age of 21.4 ± 1.7 years. Based on academic results, 146 students (73%) obtained First Division (≥ 60%)**,** while 54 students (27%) fell into the Second Division (50–59%) category. The overall mean emotional intelligence score was 129.5 ± 12.4, with students in the First Division demonstrating notably higher EI levels compared to those in the Second Division. A significant difference was observed in the emotional intelligence scores between the two academic performance groups. Students in the First Division had a mean EI score of 133.1 ± 11.2, whereas those in the Second Division had a mean score of 119.6 ± 10.7. This difference was statistically significant, as shown by an independent samples t-test ($t = 7.42$, $p < 0.001$), indicating a robust association between higher EI and better academic performance as mentioned in table 1.

Academic Division	n (%)	Mean EI Score ± SD	p-value
First Division (≥ 60%)	146 (73%)	133.1 ± 11.2	
Second Division (50–59%)	54 (27%)	119.6 ± 10.7	<0.001

Table 1: Comparison of Emotional Intelligence Scores by Academic Division

When emotional intelligence was further analyzed across its subdomains, all five dimensions showed statistically significant differences between the two academic groups. The most substantial differences were seen in motivation and self-regulation, which had the strongest influence on academic achievement as shown in table 2.

EI Subdomain	First Division (Mean ± SD)	Second Division (Mean ± SD)	p-value
Self-Awareness	27.3 ± 3.2	24.1 ± 3.6	<0.001
Self-Regulation	26.5 ± 3.4	22.9 ± 3.8	<0.001
Motivation	28.4 ± 3.1	24.3 ± 3.5	<0.001
Empathy	25.8 ± 3.0	23.5 ± 3.2	0.002
Social Skills	25.1 ± 2.7	23.1 ± 2.9	0.005

Table 2: Subdomain Scores of Emotional Intelligence by Academic Division

Correlation analysis was conducted using students exact percentage marks and their total EI and subdomain scores. All five subdomains showed a significant positive correlation with academic performance, with motivation ($r = 0.45$, $p < 0.001$) and self-regulation ($r = 0.39$, $p < 0.001$) being the most predictive of high academic achievement as shown in table 3.

EI Subdomain	Pearson's r	p-value
Self-Awareness	0.33	<0.001
Self-Regulation	0.39	<0.001
Motivation	0.45	<0.001
Empathy	0.29	0.002
Social Skills	0.27	0.003

Table 3: Correlation of EI Subdomains with Academic Percentage

The bar chart clearly depicts higher emotional intelligence scores in students who achieved First Division compared to those in the Second Division. Motivation and self-regulation contributed most substantially to the overall EI difference.

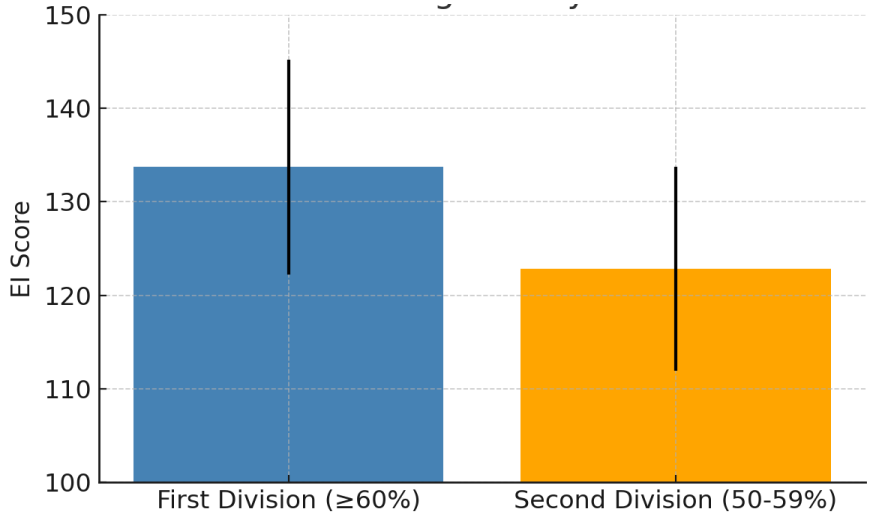

Figure 1: Bar Chart – Mean Emotional Intelligence Scores by Academic Division

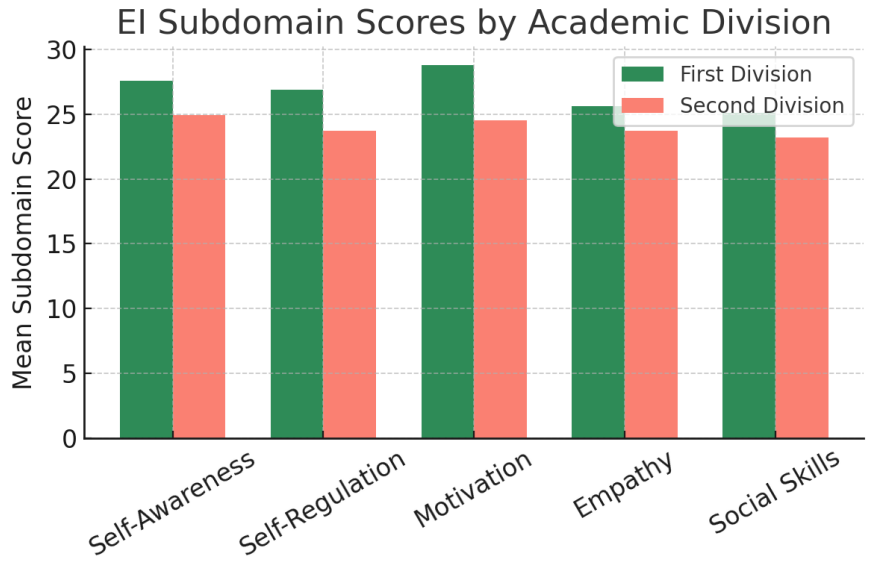

Figure 2: Clustered Bar Chart – EI Subdomain Scores by Division

This chart illustrates each EI component side-by-side across the two groups. All five components were consistently higher among First Division students, with motivation and self-regulation showing the most significant gaps.

These results collectively suggest that students with higher levels of emotional intelligence—especially in the domains of motivation, emotional self-control, and self-awareness—are more likely to perform better academically. The findings reinforce the growing recognition of EI as an essential determinant of academic success, especially in emotionally demanding and cognitively challenging environments such as medical education.

Discussion

The present study investigated the relationship between emotional intelligence and academic performance among undergraduate medical students. Using a behavioral model of emotional intelligence and a validated self-report instrument (SSEIT), the findings revealed a statistically significant association between higher emotional intelligence and superior academic achievement, as categorized by university grading into First Division (≥ 60%) and Second Division (50–59%).

Consistent with prior research, the results showed that students achieving First Division grades exhibited significantly higher total emotional intelligence scores compared to those in the Second

Division. This is in line with studies by [14](2010), which reported a positive association between EI and academic success in health professions education. The emotional competencies observed particularly in motivation and self-regulation appear to serve as cognitive-emotional resources that enhance focus, resilience, and goal-directed behavior, thereby influencing academic outcomes[14].

The domain-wise analysis of emotional intelligence further reinforces the differential performance between academic groups. First Division students consistently outperformed Second Division peers in all five EI subdomains. The most substantial differences were observed in motivation and self-regulation**,** which are considered core to academic persistence and self-directed learning. This aligns with the findings of MacCann et al. (2011), who suggested that motivational and self-regulatory capacities foster time management, sustained effort, and adaptability—critical traits for medical students navigating high-stakes examinations and complex clinical learning environments[15].

The positive correlations found between EI subdomains and academic performance ($r = 0.25$ to 0.45) suggest that emotional intelligence is not only a psychological construct but also a measurable behavioral trait with tangible academic implications. These correlations, although moderate in magnitude, are meaningful given the multifactorial nature of academic success, which includes cognitive ability, study habits, stress management, and socio-environmental factors. The particularly strong correlation between motivation and academic performance ($r = 0.44$) indicates that emotionally driven goal orientation may serve as a key determinant in differentiating high- and low-performing students.

The findings of this study have pedagogical relevance for medical educators and curriculum planners. Incorporating emotional intelligence training such as reflective practice, emotional regulation techniques, and interpersonal communication modules may help improve not only the academic outcomes of students but also their clinical competencies and professional development. Emotional intelligence plays a critical role in enhancing empathy, doctor-patient relationships, ethical decision-making, and teamwork in healthcare settings, further justifying its inclusion in medical education[16].

However, the study is not without limitations. The cross-sectional design precludes causal inferences, and the use of self-reported EI measures may be subject to social desirability bias. Additionally, the focus on academic scores as the sole indicator of performance may not capture other dimensions of professional competence. Future longitudinal studies with multi-method EI assessments and broader outcome measures are recommended to validate and extend these findings.

In conclusion, the current study provides robust evidence supporting the positive role of emotional intelligence particularly motivational and self-regulatory behaviors in enhancing academic performance among medical students. These findings underscore the importance of integrating emotional and behavioral competencies within the academic framework to foster well-rounded, high-performing medical professionals.

Conclusion:

This study provides compelling evidence that emotional intelligence significantly influences academic performance among undergraduate medical students. Students who demonstrated higher emotional intelligence—particularly in the domains of motivation, self-regulation, and self-awareness were more likely to achieve First Division scores ($\geq 60\%$) in their university examinations. These findings suggest that emotional competencies are not only complementary to cognitive abilities but are critical behavioral assets that contribute to academic success in rigorous academic environments such as medical education.

The consistent pattern of higher emotional intelligence scores among academically superior students emphasizes the need to recognize emotional intelligence as a trainable skill set. Educational institutions, especially in the health professions, should consider incorporating emotional intelligence development into their curricula to support students' academic and professional growth. Strategies such as emotional skills workshops, reflective practices, mentoring, and resilience training may enhance students' capacity for emotional regulation and goal-oriented behavior, ultimately improving their academic and clinical performance.

Overall, this research highlights the integral role of emotional intelligence in shaping the academic trajectories of medical students and reinforces its potential as a target for educational enhancement and student support interventions.

Limitations:

This study has several limitations. Its cross-sectional design restricts causal interpretation between emotional intelligence and academic performance. The use of self-reported data for emotional intelligence may introduce response bias, including social desirability effects. Additionally, academic performance was assessed solely through examination scores, which may not fully reflect students' overall competence or clinical ability. Lastly, the study was conducted at a single institution, which may limit the generalizability of the findings to other educational contexts.

Implications:

The findings of this study suggest that emotional intelligence, particularly motivation and self-regulation, plays a meaningful role in academic achievement among medical students. Integrating emotional intelligence training into medical curricula could enhance students' academic performance, resilience, and interpersonal effectiveness. Such interventions may contribute to the development of more competent, empathetic, and self-aware future healthcare professionals.

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