"Dimensional Analysis of Emotional Intelligence as a Predictor of Academic Achievement"

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ARTICLE INFO	ABSTRACT
	Emotional intelligence—the capacity to perceive, analyse, manage, and use emotions—has acquired widespread recognition as an important factor in affecting academic accomplishment. This new subject is supported by a growing body of research suggesting a strong link between emotional intelligence and academic success, especially among high school and university students. This research looks at how self-awareness, motivation, empathy, flexibility, stress management, and social skills affect academic achievement. The study took a cross-sectional quantitative method, surveying 260 students from varied educational backgrounds in Gujarat, India. It found that most characteristics of emotional intelligence highly influenced academic achievement, with motivation being the most powerful predictor. Stress management, on the other hand, showed no significant association. The findings emphasize the need of adding emotional intelligence training into educational programs to boost student success. **Keywords:** Emotional Intelligence, Academic Performance, Motivation, College Students

INTRODUCTION:

Emotional intelligence, the ability to perceive, understand, manage, and utilize emotions, has garnered considerable attention as a crucial factor influencing various aspects of human life, including academic performance (Aloiseghe, 2018; Romanelli et al., 2006). Recent investigations suggest that emotional intelligence is a relatively new field, but it can affect the academic success of students ("Students Do Better in School When They Can Understand, Manage Emotions," 2019). Specifically, the interplay between emotional intelligence and academic outcomes in high school students is a salient area of investigation, especially when considering potential gender-based variations. Numerous studies have begun to unravel the ways in which emotional intelligence contributes to academic success, positing that individuals with higher emotional intelligence tend to exhibit improved academic performance (Afridi & Ali, 2019). However, there is limited research about emotions in capturing better academic scores through education (Pandey et al., 2019). The exploration of gender differences within this context adds another layer of complexity, prompting inquiries into whether males and females differ in their emotional intelligence competencies and, if so, how these differences manifest in their academic achievements (Pandey et al., 2019).
Emotional intelligence is seen as a crucial element that, when properly developed and used, offers considerable advantages for learning, relationships, and well-being (Rupande, 2015). It encompasses a range of skills, including the ability to accurately perceive emotions in oneself and others, use emotions to facilitate cognitive processes, understand emotional information, and manage emotions effectively (Trigueros et al., 2020).

LITERATURE REVIEW

Emotional Intelligence and Academic Performance
Emotional Intelligence (EI) is acknowledged as a blend of emotional and social skills that affect personal adaptability, effectiveness in relationships, and self-control in intricate situations. The influence of emotional intelligence on academic performance is increasingly being backed by empirical evidence in the field of education. Different frameworks, particularly that of Daniel Goleman, classify emotional intelligence into

fundamental dimensions such as self-awareness, motivation, empathy, adaptability (through self-regulation), stress management, and social skills. This section examines the scholarly importance of each dimension.

Self-Awareness

Self-awareness denotes the ability to identify and contemplate one's emotional states and their impact on behavior. According to Din et al. (2024), self-awareness had a significant positive correlation with academic scores among medical students, particularly in third-year cohorts who outperformed their first-year counterparts in both emotional maturity and exam outcomes. Radu et al. (2024) similarly discovered that PhD students had markedly more self-awareness than undergraduates, correlating with enhanced self-assessed academic success. Recent findings are corroborated by prior research: Demetriou et al. (2020) demonstrated that cognitive self-awareness in adolescence directly forecasts academic performance over time, while Yahaya et al. (2011) quantified the significant impact of self-awareness on academic outcomes among secondary school students. In more recent longitudinal research, Musinguzi and Aheisibwe (2024) confirmed that students with high levels of self-awareness showed improved achievement in socio-emotional learning contexts. Additionally, Sohail and Akram (2025) utilized a Bayesian psychological approach to demonstrate that self-awareness levels were positively associated with learning satisfaction and academic engagement. Taken together, these studies across diverse educational contexts and timeframes underscore the foundational role of self-awareness in enabling students to regulate emotions, set academic goals, and engage in effective metacognitive strategies for learning.

Motivation:

Motivation is fundamental to academic perseverance and resilience. Ramlal et al. (2022) found self-motivation as a key component of emotional intelligence that is significantly connected with GPA, particularly among male students, highlighting its essential role in academic goal dedication and success. Radu et al. (2024) noted that students with elevated motivational ratings excelled in task-related academic tasks, with PhD students surpassing undergraduates in this regard. Previous fundamental research has corroborated this viewpoint; Ayub (2010) shown that both intrinsic and extrinsic motivation significantly affected academic performance, with intrinsic motivation demonstrating a more robust and consistent influence. Goodman et al. (2011) said that motivation improves academic performance mostly via the mediating effects of effort and continuous engagement. Kusurkar et al. (2013) elucidated this correlation in medical education, employing structural equation modeling to show that student motivation is a robust predictor of academic achievement across several learning outcomes. Almalki (2019) identified that several motivational orientations, such as goal-setting and task value, are critical drivers of success in dentistry students. These findings collectively emphasize the essential importance of motivation as a cognitive and emotional catalyst for disciplined study habits, academic involvement, and sustained accomplishment.

Empathy:

When it comes to building cooperative and inclusive learning environments, empathy—that is, recognizing and reacting to the feelings of other people—is of the utmost importance. There were a number of research that found a favorable correlation between empathy and improved classroom conduct as well as increased peer collaboration. Despite the fact that it did not immediately transfer into grade point average, the research conducted by Moreno (2018) found that primary school students had high empathy ratings. This suggests that the role of empathy may be more indirect, but it is still vital for the dynamics of the socio-academic environment (Moreno, 2018). Additionally, Ramlal et al. (2022) discovered that among male MBA students, empathy was shown to have a substantial linear association with cumulative grade point average. According to Monica and Ramanaiah (2019), female students consistently scored better in empathy, which suggests that it has a deeper social integration in female academic engagement.

Adaptability

The capacity to adjust is evident in how individuals manage their reactions to evolving academic obstacles. While frequently assessed within the larger context of self-regulation, adaptability allows students to sustain their performance in high-pressure situations and navigate academic uncertainties effectively. Din et al. (2024) identified notable correlations between self-regulation and exam scores, especially in higher-year students, underscoring the evolving nature of adaptability throughout academic development. Radu et al. (2024) observed variations in emotional self-management based on gender, highlighting that male students exhibited greater emotional control, which may provide them with an advantage in high-pressure academic environments. This is consistent with previous research by Collie et al. (2017), which highlighted that adaptability was positively associated with university students' academic engagement and success, especially when they needed to modify priorities or tasks to address changing academic requirements. Feraco et al. (2023) provided evidence that adaptability, within the framework of emotional and behavioral self-regulated learning, was a significant predictor of academic achievement and life satisfaction in high school and college students. Similarly, Asikainen et al. (2018) emphasized the importance of psychological flexibility and time management in maintaining academic success, whereas Neuenschwander et al. (2012) demonstrated that effortful control and the ability to adapt to school routines were indicators of successful educational transitions. Collectively,

these studies highlight adaptability as a complex skill that integrates emotional regulation, cognitive flexibility, and behavioral control, all of which play a crucial role in fostering academic resilience and enhancing performance across various learning environments.

Stress Management

The ability to manage stress plays a vital role in maintaining academic concentration and fostering psychological strength. Radu et al. (2024) discovered that emotional regulation, frequently viewed as a crucial factor in stress management, was notably more pronounced in male students, which correlated with a more stable academic performance. Din et al. (2024) supported this observation, noting that third-year medical students exhibiting higher academic performance also showed greater emotional control compared to their first-year peers. The results reinforce the established perspective that effective stress management contributes to improved academic performance by reducing the cognitive disruptions associated with anxiety. Previous investigations provide additional support for this connection: Saklofske et al. (2012) highlighted the significance of stress management and emotional regulation as crucial components of emotional intelligence that have a direct impact on students' academic achievement and overall mood. In a similar vein, Cherry and Wilcox (2020) discovered that interventions aimed at reducing stress, grounded in emotional regulation principles, led to notable enhancements in the psychological well-being and academic involvement of college students. A clinical study conducted by Keogh et al. (2006) revealed that stress management training resulted in enhanced mental health and academic performance, highlighting the positive effects of regulated stress responses. Usán and Quílez (2021) have identified self-efficacy as a mediating factor between emotional regulation and academic performance, indicating that students who effectively manage stress exhibit greater confidence in their academic abilities. These findings collectively demonstrate that managing stress, via emotional regulation and resilience, is essential for maintaining academic performance and overall well-being.

Social Skills:

Social skills include the ability to communicate effectively, work collaboratively in teams, and resolve conflicts—these are crucial for group learning and collaboration among peers. Individuals exhibiting high levels of social intelligence often show improved engagement in classroom discussions, greater empathy in interpersonal interactions, and foster more effective relationships with both peers and educators. Radu et al. (2024) found that students with enhanced social skills demonstrated better contextual performance in academic settings. In a similar vein, Din et al. (2024) highlighted that the management of relationships—an essential aspect of emotional intelligence—was significantly associated with academic adaptation and achievement. Moreno (2018) noted that although schoolchildren exhibited well-developed social skills, their influence on academic performance might be more nuanced, fostering classroom harmony and facilitating peer learning rather than directly affecting grades. Previous investigations support this perspective; Wentzel (1991) discovered that prosocial behavior and peer-related skills had a significant impact on classroom motivation and cooperative learning. Recent findings by Farivar et al. (2012) indicate a positive correlation between social problem-solving skills, emotional expression, and academic engagement. Studies consistently indicate that social competence is a developmental skill, frequently enhancing with academic maturity, and senior students generally report higher levels of social effectiveness compared to their junior peers.

Theoretical Framework:

The investigation is based on Goleman's (1995) emotional intelligence theory, which defines emotional intelligence as a multifaceted construct that includes emotional awareness, self-regulation, motivation, empathy, and social skills. This framework informed the development of the conceptual model, positing that elevated levels of these emotional competencies have a positive impact on academic performance. The empirical data validated this model, indicating that the majority of the EI dimensions—apart from stress management—were significant predictors of academic success. The model is consistent with psychological and educational theories that emphasize the importance of integrating emotion and cognition to improve learning outcomes (Mayer & Salovey, 1997; Vygotsky, 1978).

Conceptual model:
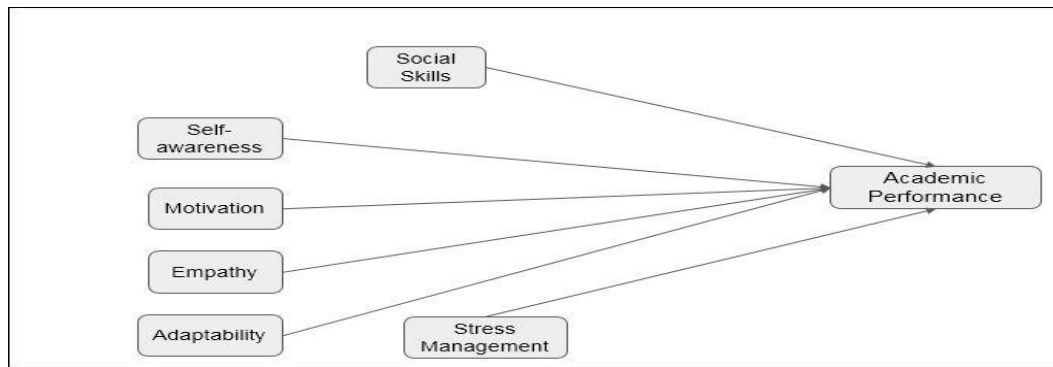
RESEARCH METHODOLOGY

This study utilized a quantitative, cross-sectional survey research design to investigate the impact of Emotional Intelligence (EI) components on academic performance in high school and undergraduate students. The sample consisted of 260 students representing a variety of educational backgrounds and types of institutions. The sample was collected from several major cities in Gujarat, specifically Ahmedabad, Vadodara, Rajkot, and Surat. The sample comprised a diverse group of secondary, higher secondary, and undergraduate students, ensuring a balanced representation from public, private, and government-aided institutions, as well as residential environments that spanned urban to rural contexts. The sample distribution exhibited stratification by age and gender, revealing a greater percentage of male students at 64.6%, in contrast to female students at 35.4%.

The tools utilized in this study consisted of a structured questionnaire designed to assess six dimensions of emotional intelligence, following the framework established by Daniel Goleman: self-awareness, motivation, empathy, adaptability, stress management, and social skills. The assessment utilized Likert-scale items, while academic performance was gauged through self-reported GPA or comparable academic indicators. The data collection process utilized non-probability convenience sampling, facilitating straightforward access to various educational institutions.

The analysis of the data was conducted through descriptive statistics, analysis of variance (ANOVA), and multiple linear regression utilizing SPSS.

Data analysis:

DEMOGRAPHICS		Frequency	Percent
AGE	15-17 years	49	18.8
	18-20 years	69	26.5
	21-23 years	64	24.6
	24 years above	78	30.0
EDU	HSC	51	19.6
	SSC	103	39.6
	UG-1st,2nd year	71	27.3
	UG-3rd,4th year	35	13.5
GENDER	Male	168	64.6
	Female	92	35.4
INST TYPE	Public inst	64	24.6
	Pvt inst	96	36.9
	Granted	100	38.5
LOCATION	Urban	72	27.7
	Semi-urban	115	44.2
	Rural	73	28.1
RESIDENTIAL STATUS	On Campus -hostel	73	28.1
	Off Campus- own house	98	37.7
	Others- PG	89	34.2
Total		260	100.0

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.812a	0.659	0.651	0.44513
a. Predictors: (Constant), stm, sa, adap, emp, ss, mot				

ANOVAa				
Model		Sum of Squares	df	Mean Square
1	Regression	96.961	6	16.160
	Residual	50.129	253	0.198
	Total	147.090	259	
a. Dependent Variable: acp				
b. Predictors: (Constant), stm, sa, adap, emp, ss, mot				

Coefficientsa				
		Unstandardized Coefficients		Standardized Coefficients
Model		B	Std. Error	Beta
1	(Constant)	-0.607	0.236	
	SA	0.152	0.050	0.142
	SS	0.198	0.043	0.207
	MOT	0.553	0.052	0.479
	EMP	0.164	0.041	0.168
	ADAP	0.127	0.045	0.115
	STM	-0.004	0.035	-0.005
a. Dependent Variable: ACP				

A total of 260 participants were involved in the study. The age distribution reveals that 18.8% of individuals were between 15 and 17 years old, 26.5% fell within the 18 to 20-year range, 24.6% were aged 21 to 23 years, while the largest segment, comprising 30%, consisted of those aged 24 years and older. The educational qualifications of the sample included 19.6% with higher secondary (HSC), 39.6% holding a secondary school certificate (SSC), 27.3% who were undergraduate first and second-year students, and 13.5% who were undergraduate third and fourth-year students. In terms of gender distribution, 64.6% of the participants identified as male, while 35.4% identified as female. The distribution of participants was relatively balanced among different types of institutions, with 24.6% affiliated with public institutions, 36.9% with private institutions, and 38.5% with government-aided (granted) institutions. The geographical distribution comprised 27.7% urban, 44.2% semi-urban, and 28.1% rural participants. Regarding residential status, 28.1% lived on-campus, 37.7% off-campus, and 34.2% reported other types of residential arrangements.

A multiple linear regression analysis was performed to investigate the predictive influence of components of emotional intelligence—self-awareness (SA), social skills (SS), motivation (MOT), empathy (EMP), adaptability (ADAP), and stress management (STM)—on academic performance (ACP). The regression model demonstrated statistical significance, $F(6, 253) = 81.561$, $p < .001$, suggesting that the collection of emotional intelligence predictors accounted for a notable portion of the variance in academic performance.

The model explained 65.9% of the variance in academic performance ($R^2 = .659$), with an adjusted R^2 of .651, indicating robust explanatory power and a high level of model fit. In the analysis of individual predictors, motivation was identified as the strongest predictor ($\beta = .479$, B = .553, $p < .001$), followed by social skills ($\beta = .207$, B = .198, $p < .001$), empathy ($\beta = .168$, B = .164, $p < .001$), self-awareness ($\beta = .142$, B = .152, $p < .01$), and adaptability ($\beta = .115$, B = .127, $p < .01$). The contribution of stress management to the model was not significant ($\beta = −.005$, B = −.004, $p > .05$).

Discussion of the results:

The results from the multiple regression analysis indicate that emotional intelligence significantly influences students' academic performance. The comprehensive analysis of the six dimensions of emotional intelligence—self-awareness, social skills, motivation, empathy, adaptability, and stress management—revealed a robust and significant correlation with academic success. This suggests that the integration of these emotional capabilities can significantly impact students' academic performance.

Among the individual predictors, motivation emerged as the most significant factor. Individuals who are motivated from within and have a clear academic focus often attain superior performance results. In a similar vein, individuals possessing robust social skills—like effective communication, collaboration, and adeptness in managing interpersonal dynamics—demonstrated superior academic performance. Understanding oneself and

others is crucial, indicating that empathy and self-awareness play significant roles in effectively addressing academic challenges. The ability to adjust to new or changing academic demands demonstrated a modest yet positive impact.

CONCLUSIONS:

This study establishes that Emotional Intelligence (EI) significantly influences academic performance in students. The research confirms that different components of emotional intelligence—particularly motivation, social skills, empathy, and self-awareness—play a significant role in contributing to academic success. It is evident that students exhibiting greater intrinsic motivation and interpersonal skills generally achieved superior academic performance. The findings align with previous studies conducted by Kusurkar et al. (2013), which identified motivation as a crucial factor influencing academic success across various learning environments, and by Wentzel (1991), who emphasized the significance of social and prosocial behaviors in improving classroom results. Interestingly, stress management did not appear as a significant predictor, indicating the potential influence of unmeasured mediating variables like self-efficacy or academic resilience. Nevertheless, the findings support the incorporation of strategies aimed at developing emotional intelligence within educational programs to enhance academic success.

Theoretical Implications:
The research supports and expands upon Daniel Goleman's theoretical framework of Emotional Intelligence, categorizing EI into self-awareness, motivation, empathy, adaptability (through self-regulation), stress management, and social skills. This also corresponds with Bandura's (1997) theory of self-efficacy, highlighting the impact of self-perceptions on motivation and behavior. The significant link between emotional intelligence and academic performance aligns with Vygotsky's (1978) social constructivist theory, especially the notion that learning is fundamentally social and influenced by emotions. The results provide substantial evidence supporting the idea that emotional intelligence is not merely a soft skill, but rather a crucial component of cognitive regulation and academic success.

Practical Implications:
The findings provide essential insights for educators, school administrators, and policy-makers from a practical standpoint. Considering the strong links between motivation, social competence, and self-awareness with academic success, it is essential for educational institutions to integrate emotional intelligence training into their standard curricula. This may encompass organized workshops focused on emotional regulation, programs for peer mentoring, and interventions in social-emotional learning led by educators. Educational institutions ought to prioritize the allocation of resources towards professional development initiatives for educators, ensuring they are equipped with effective strategies to address the emotional and academic requirements of their students. Interventions of this nature have been demonstrated by Cherry and Wilcox (2020) as well as Saklofske et al. (2012) to improve student engagement, resilience, and academic performance.

Future Scope and Limitations
The present investigation paves the way for numerous potential inquiries ahead. Longitudinal studies are essential for exploring the developmental trajectory of emotional intelligence across time, particularly during significant academic transitions. Future studies could also utilize experimental or quasi-experimental designs to evaluate the effectiveness of EI interventions on student outcomes. Furthermore, conducting comparative studies across various disciplines (such as STEM and humanities) and cultural contexts would yield deeper insights into the functioning of emotional intelligence within different academic settings. It is essential to investigate the potential moderators and mediators—like academic self-efficacy, anxiety levels, or learning environments—that could affect the strength or direction of the relationship between emotional intelligence and academic performance.

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