



Research Paper

Relationship Between Emotional Intelligence, Educational Achievement and Academic Stress in College Students: An Observational Study



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ABSTRACT

Background and Objectives: In today's rapidly changing and interconnected world, where individuals often face high levels of stress, uncertainty, and interpersonal dynamics, Alpas's framework suggests that emotional intelligence plays a crucial role in helping people thrive. By developing emotional intelligence skills, such as self-awareness, self-regulation, empathy, and social skills, individuals can better manage stress, communicate effectively, build strong relationships, and make sound decisions even in challenging circumstances.

Methods: A cross-sectional study was conducted among college students. Participants who were willing to take part in the study were included, considering both males and females. A total sample of 134 students was taken from the NIMS College of Physiotherapy. Emotional intelligence was assessed using the WONG scale, while educational achievement was measured by the total percentage obtained in the last semester. Academic stress was evaluated using the Student Inventory Scale. A Google Form was created, and only those willing to participate in the study filled out the form.

Results: There was a negative correlation between emotional intelligence and academic stress ($r=-1.000$), academic stress and percentage ($r=-0.62$), and percentage and emotional intelligence ($r=-0.67$).

Conclusion: The present study concludes that emotional intelligence, academic stress, and educational achievements are negatively correlated with each other. It has been observed that students experiencing stress tend to exhibit lower emotional intelligence, which ultimately leads to poorer academic performance.

Keywords: WONG's emotional intelligence, Student inventory scale, Emotional intelligence, Academic stress, Educational achievement, College students, Cross-sectional study



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↑ *What is “already known” in this topic:*

In today's rapidly changing world college going students tends to develop academic stress either to fulfil their parent's wishes or to succeed in life, which leads to hamper their emotional intelligence and educational achievement. Moreover; emotional intelligence plays a crucial role in enhancing educational achievement and mitigating academic stress. By fostering emotional intelligence, educational institutions can help students achieve better academic outcomes and manage stress more effectively.

→ *What this article adds:*

Present study is considering the college going student population and trying to find out the relationship between emotional intelligence, educational achievement and academic stress among college going students. The study helps to understand that emotional intelligence is very important to maintain the life satisfaction and well-being of students as, the student population is very high in present time and are more prone for mental health issues and moreover these students are future of the country. It is very important to understand that mental status of students. The finding shows that emotional intelligence, academic stress can have an impact on academic achievements of students. It was also found that students are stressed but had no idea about it they have started thinking it as a part of routine. Given the significant impact of these factors on academic achievement, the study suggests the necessity of implementing programs aimed at developing EI and coping skills among students. Such programs could potentially improve academic success.

Introduction

Emotional intelligence (EI) has indeed garnered significant attention in social psychology and various other fields. It refers to the ability to recognize, understand, and manage one's own emotions, as well as to perceive and influence the emotions of others. Many researchers believe that EI plays a crucial role in personal and professional success, often complementing traditional measures of cognitive intelligence (IQ) [1].

Modern students face a plethora of academic demands, such as formative and summative assessments, classroom interactions, competitive exams, and meeting the expectations of teachers and parents. All these factors contribute to stress, which can lead to significant impacts on their academic performance [2].

EI encompasses a range of abilities related to understanding and managing emotions, both in oneself and in others. EI is a valuable skill that can be cultivated and enhanced over time through self-awareness, empathy, and interpersonal communication. Training programs and interventions aimed at improving emotional intelligence have shown promising results in various contexts, including the workplace, education, and personal relationships [3].

EI plays an important role in enhancing reasoning and understanding interpersonal complexities, underscoring its importance in various aspects of life, including relationships, decision-making, and conflict resolution. It acknowledges the cognitive aspects involved in processing emotions and emphasizes the practical implications of emotional intelligence in navigating social interactions and challenges [4, 5]. EI skills are important predictors of academic success and play a key role in students' performance. The higher the emotional intelligence, the greater the academic achievement will be.

Educational achievement

Academic success is closely tied to the effectiveness of instruction, encompassing the achievements of students, educators, and educational institutions in fulfilling their educational objectives. It is commonly defined as the extent, to which students acquire the knowledge, competencies, abilities, and skills that are intended to be taught or assigned by the teacher.

Several factors contribute to academic success, including the quality of instruction, the engagement and effort of students, the support provided by educators and institutions, as well as external factors, such as resources available and socio-economic backgrounds. Effective instruction plays a central role in facilitating the learn-

ing process, guiding students toward the attainment of educational goals, and fostering their overall growth and development [6].

Academic success is a multifaceted concept that encompasses both individual achievement and the effectiveness of educational systems. It serves as a vital measure of progress within the field of education, with implications for future success and productivity at both the individual and societal levels [7]. EI assumes a significant position within the realm of educational settings i.e. academic success, academic adaptation, and psychological well-being of the students [8].

Academic success is a crucial determining factor of accomplishment, especially in today's intensely stressful conditions for students across all levels of education. The pressures faced by students in modern educational environments can be multifaceted and intense, stemming from various sources, such as academic expectations, standardized testing, competition for college admissions, societal pressures, and personal challenges [9]. Thus, managing stress and developing EI play a crucial role in enhancing educational achievement and promoting overall well-being.

Academic stress

For students pursuing education degrees, the pressure to excel academically is often compounded by the need to maintain eligibility for financial aid, scholarships, or grants, which may be contingent upon maintaining a certain CGPA or achieving specific academic milestones. Additionally, the desire to secure better job prospects in the future also motivates students to strive for high academic performance during their university years. However, this pressure can lead to significant stress and anxiety among students. The fear of failing to meet academic expectations or losing financial support can create a cycle of stress that negatively impacts their overall well-being and academic performance [10].

The university stage is a critical period during which students undergo significant academic, professional, and personal development. This period is characterized by transitions, challenges, and increasing social demands, all of which can contribute to heightened stress levels among students [11].

The aim of this study was to investigate the relationships between EI, academic stress, and achievement among college students. Given the limited existing research in this area, the study sought to contribute to the

understanding of these variables by analyzing a large sample. It was hypothesized that higher levels of EI would enable students to cope more effectively with academic stress. Additionally, the study considered the impact of students' current academic performance on these variables. While the primary focus was on academic achievement, the findings of this study were expected to lay the groundwork for future research in this domain, particularly concerning college students.

Need for the study

There is a lack of studies on EI, academic stress, and achievement among college students. We aimed to analyze these variables with a large sample to understand these relationships better. This study assumed the importance of having high levels of emotional intelligence to cope successfully with academic stress. Additionally, students' average marks to date were included as a factor influencing these variables. Although the focus is on students, this study will provide the basis for future research within this population.

Therefore, this research aimed to examine the emotional abilities of future generations based on their EI and academic stress levels in order to provide guidance for future stressful situations that may affect their professional development. For this purpose, attention was paid to the variable of gender in order to know if there are differences in EI based on gender. For this purpose, attention was paid to the variable of gender to determine if there are differences in EI based on gender. Likewise, we intended to analyze the relationship among EI levels, academic stress, and academic achievement. Taking the above into account, this study addressed the following research questions:

What are the levels of EI and academic stress among students?

What is the relationship between EI, academic stress, and academic performance of pre-service teachers?

Materials and Methods

Subjects and design

A descriptive, cross-sectional, and non-experimental research project was carried out with 134 university students aged 17 to 28 years studying physiotherapy at the NIMS University, Jaipur, Rajasthan. The convenient sampling method was performed according to the availability of the population. Students were free to fill out or reject questionnaires.

Instruments

The research project utilized three distinct instruments. The first instrument was an ad hoc questionnaire designed to collect demographic information and academic data from the participating students. This questionnaire included items where students indicated their gender, age, city of residence, field of study, and current academic year. Additionally, students were asked to provide their average marks from the previous semester, represented as a percentage. These marks reflected the overall average obtained in their courses during that semester and served as an indicator of academic achievement.

The second instrument employed in the research project was Wong and Law's emotional intelligence scale. This scale comprises 16 short statements aimed at assessing four dimensions of EI:

Self-emotion appraisal (SEA): Reflects an individual's perceived ability to accurately appraise their own emotions.

Others' emotion appraisal (OEA): Assesses an individual's ability to understand and appreciate the emotions of others.

Use of emotion (UOE): Examines how effectively individuals can utilize their emotions in various situations.

Regulation of emotion (ROE): Measures the ability of individuals to manage and adapt their emotions according to different circumstances.

Respondents were instructed to rate their level of agreement with each statement on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The Indian version of the scale used in this study was adapted from Extremera et al., which has demonstrated satisfactory validity and reliability in Spanish contexts ($\alpha=0.91$) [12].

The third instrument utilized in the research project was the student stress inventory (SSI), specifically designed to measure academic stress. The SSI comprises four subscales, each focusing on different aspects of stress experienced by students:

- Physical stress: Includes 10 negative items related to physical manifestations of stress.

- Interpersonal relationship stress: Consists of 10 negative items assessing stress related to social interactions and relationships.

- Academic stress: Comprises 10 negative items specifically targeting stress arising from academic demands and pressures.

- Environmental stress: Includes 10 negative items measuring stress related to the student's external environment.

The overall validity score for the SSI was high, at 8.05 (80.5%), indicating strong validity. Additionally, validity scores for each subscale were reported as follows: Physical: 8.07, interpersonal relationship: 7.89, academic: 8.22, and environmental: 8.02. Reliability analysis of the SSI demonstrated a high level of overall reliability, with a score of 0.857. However, the reliability analysis for each subscale showed moderate reliability, with scores reported as follows: Physical: 0.680, interpersonal: 0.620, academic: 0.842, and environmental: 0.806. Despite slightly lower reliability scores for the subscales, the overall reliability of the SSI remained high, indicating consistent and dependable measurement of academic stress among students [13].

Procedure

The administration of the instruments was conducted using a [Google Form](#) tool. Researchers personally attended classes of potential participants to explain the purpose of the research and invite them to participate. In instances where direct communication with students was not feasible, the teaching staff was briefed about the study and instructed to inform their students accordingly, providing them with the necessary information and the link to access the questionnaire. In all cases, researchers provided their e-mail addresses for participants to contact them in case of queries or the need for further clarification. As an inclusion criterion, all participants had to be college-going students aged 17-28 years; both males and females were included in the study.

A total of 134 participants were invited to take part in the study, of whom 16 either declined to participate or did not respond. Additionally, some questionnaires had to be excluded from the analysis due to incomplete responses or failure to meet the required completion standards. These measures were taken to ensure the integrity and reliability of the collected data. Participation in the study was completely voluntary.

Data analysis

Data were analyzed by SPSS software, version 25. A normality test was conducted to evaluate the distribution of the data, and it was found to be normally distributed with a P of 0.000.

Results

Table 1 shows the Mean \pm SD for age (22.40 \pm 1.17), gender (1.50 \pm 0.502), mean percentage (71.98 \pm 7.604), emotional intelligence (EI) (1.48 \pm 0.501), and stress (1.48 \pm 0.501).

The descriptive results (Tables 2 and 3) show the frequency of age and gender; there were 70 males and 64 females present in the study.

There was a negative correlation between emotional intelligence and academic stress ($r=1.000$), academic stress and mean percentage ($r=-0.62$), and mean percentage and EI ($r=-0.67$) (Table 4).

Discussion

This study focused on the psychosocial profile of current college students and its relationship to their academic performance, specifically examining EI, academic stress, and

educational achievements. The aim was to explore how these factors interact with each other and to conduct a comprehensive analysis of the psychological and social factors influencing students' academic performance.

The findings of García-Martínez et al.'s study demonstrated that the experimental group's overall EI score as well as the scores on its four dimensions—develop self-awareness, self-management, social awareness, and student relationship management—were significantly higher than those of the control group. This result is consistent with other surveys [14]. The findings from García-Martínez et al.'s study demonstrated that the experimental group's overall EI score, as well as scores on its four dimensions—developing self-awareness, self-management, social awareness, and student relationship management—were significantly higher than those of the control group. This result is consistent with findings from other studies [14].

In their study, Sepehriyan et al. and Zachariah discovered that an EI-based educational intervention may dramatically raise students' EI levels while lowering their levels of academic stress and stress-related behaviors [15, 16]. In their research, Sepehriyan et al. and Zachariah discovered that an EI-based educational intervention could significantly increase students' EI levels while reducing their academic stress and stress-related behaviors [15, 16].

Table 1. Characteristics of participants

Number of Participants	Age	Gender	Overall Mean Percentage Obtained in Degree (Last Academic Year)	Total Score Emotional Intelligence	Stress Score
Valid	134	134	134	134	134
Missing	0	0	0	0	0
Mean \pm SD	22.40 \pm 1.171	1.50 \pm 0.502	71.98 \pm 7.604	1.48 \pm 0.501	1.48 \pm 0.501

Table 2. Frequency of age and emotional intelligence

Age (y)	No. (%)	Valid Percent	Cumulative Percent
21	31(23.1)	23.1	23.1
22	48(35.8)	35.8	59
23	37(27.6)	27.6	86.6
24	8(6)	6	92.5
25	8(6)	6	98.5
26	2(1.5)	1.5	100
Total	134(100.0)		100

Table 3. Frequency of gender and stress

Gender	No. (%)	Valid Percent	Cumulative Percent
Female	64(50.0)	50.0	50.0
Male	70(50.0)	50.0	100.0
Total	134(100.0)	100.0	

Emotional Intelligence	No. (%)	Valid Percent	Cumulative Percent
Extremely satisfied	70(52.2)	52.2	52.2
Extremely dissatisfied	64(47.8)	47.8	100.0
Total	134(100.0)	100.0	

Stress	No. (%)	Valid Percent	Cumulative Percent
Moderate	70(52.2)	52.2	52.2
Severe	64(47.8)	47.8	100.0
Total	134(100.0)	100.0	

Table 4. Correlation between variables

Correlation	r	Sig.
Emotional Intelligence and academic stress	1.000	0.00
Academic stress and percentage	-0.62	0.475
Percentage and emotional intelligence	-0.67	0.485

Components	Total Score Emotional Intelligence			
	Extremely Satisfied	Extremely Dissatisfied	Total	
Gender				
	Female	67	0	67
	Male	3	64	67
	Total	70	64	134

Components	Crosstab			
	Count			
	Stress Score			
	Moderate	Severe	Total	
Gender				
	Female	67	0	67
	Male	3	64	67
	Total	70	64	134

Naushad et al. and Jahan et al. showed that EI instruction significantly improved students' ability to regulate and control their responses to stress. Overall, there may be an improvement in the physiological, behavioral, and emotional reactions of students as a result of the experimental group's notable increase in EI scores. This outcome is in line with several studies indicating that EI training improves children's and adolescents' responses to various stresses [17, 18]. They found that people with higher EI levels are better equipped to manage their emotions or reactions in stressful situations because they can effectively assess and perceive their emotions, know when and how to express their feelings and senses, and can accurately regulate and control their mood conditions [18].

Khorasani et al. study highlighted self-awareness and self-management as crucial factors in EI, aligning with existing research emphasizing the importance of these components in understanding and improving EI. The findings suggest that interventions aimed at enhancing EI skills, particularly self-awareness and self-management, could potentially mitigate stress levels among university students. This could involve implementing training programs or interventions designed to cultivate these skills and provide students with strategies for managing stress and fostering emotional well-being. Moreover, incorporating EI development into university curricula or student support services could contribute to students' overall academic success and well-being [19]. Alpas et al. regard EI as a critical factor for success in both personal and professional life, particularly in navigating the complexities of today's social and work environments. They argue that EI enables individuals to effectively manage and adapt to the various pressures and challenges they encounter in their personal and professional lives. Their perspective emphasizes that EI encompasses more than just cognitive abilities or technical skills. Instead, it involves understanding and managing one's own emotions and those of others, fostering meaningful relationships, and effectively navigating social situations [20].

In today's rapidly changing and interconnected world, where individuals often face high levels of stress, uncertainty, and interpersonal dynamics, Alpas's framework suggests that EI plays a crucial role in helping people thrive. By developing EI skills such as self-awareness, self-regulation, empathy, and social skills, individuals can better manage stress, communicate effectively, build strong relationships, and make sound decisions even in challenging circumstances. For professionals, possessing high EI can lead to improved leadership abilities, enhanced teamwork, better conflict resolution,

and increased overall performance and productivity. In essence, Goleman's perspective underscores the importance of nurturing EI as a fundamental aspect of personal and professional development in today's complex and demanding world [20].

Academic stress is indirectly influenced by EI, according to research done by Yoo et al. [21] in an effort to determine the causal link between the two variables. Graduate students experienced less stress when they scored better on EI tests, according to the findings of Frazier et al. [22]. As a result, developing EI abilities can aid in stress reduction and the improvement of stress management techniques. Students from Birjand University of Medical Sciences participated in a study by Miri et al. [23] that examined the association between academic stress and EI. The results indicated that there was no significant relationship between the two variables. This study's findings are not consistent with ours, but the instruments employed in this research differ from our study, which could explain the discrepancy. This could be due to the outcome measures used in the study, or cultural and geographical differences might have affected the results.

The findings suggest that prospective teachers exhibit a stronger ability to recognize the emotions of others compared to their own emotions. Despite this, both dimensions of EI rank highest among the surveyed individuals. However, when it comes to utilizing emotions and regulating them, the results indicate moderate values, which are lower than those observed for emotion recognition. This suggests that while future teachers may excel at identifying emotions in others and themselves, they may struggle comparatively in effectively using and managing those emotions. Additionally, these findings align with previous research indicating that emotional regulation tends to be the least developed dimension of EI among educators. This identifies a potential area for targeted intervention or training to enhance emotional regulation skills among future teachers [24].

Akpınar et al. in relation to previous research, showed that women exhibited substantial variations in the average mark to date of their degrees. The research shows that women perform better academically in this field than males do, and this characteristic is linked to higher levels of participation, critical thinking, and vocation, particularly in educational degrees [12, 26, 27].

In studies by Ciarrochi et al. [28] and Bibi et al. [29], the analysis of the psychosocial profile by gender revealed that females exhibit higher levels of EI compared

to males. This conclusion is supported by statistically significant differences observed across all four dimensions of the EI construct. These findings are consistent with previous research conducted not only among university students but also within the adult population at large. Such results indicate a potential gender disparity in EI, with females generally demonstrating greater proficiency in recognizing, understanding, utilizing, and regulating emotions compared to males. Several potential explanations exist, including biological, social, and cultural factors. One biological theory suggests that women may have an evolutionary advantage in EI. Some researchers have posited that women evolved to be better at reading emotional cues and responding to them due to their role as primary caregivers in early human societies. However, this theory is controversial and has been challenged by other researchers who argue that there is no evidence to support it. Another explanation for differences in EI between genders is socialization. From a young age, boys and girls are often socialized differently, with girls being encouraged to express their emotions more freely and boys being taught to suppress their emotions. This may lead to differences in EI later in life, as girls may have more opportunities to practice and develop emotional skills [28, 29].

One of the most commonly cited reasons for women having higher EI than men is their ability to empathize with others [28, 29].

Strong correlations between OEA and stresses, ROE and symptoms, and ROE and symptoms for both genders were discovered in the correlational study [30].

The association between academic stress, EI, and academic accomplishment was another factor that needed to be assessed [31]. This investigation is in line with studies that show EI to be a predictor of both academic performance and, subsequently, career success. For instance, research by Kuk et al. with college students argues that improving EI is crucial to reducing the severity of stress-related symptoms and better preparing them for careers in social services [32].

Similarly, additional research has demonstrated how crucial it is for college-bound students to focus on their emotions as inexperienced individuals often exhibit more pessimistic views about challenging situations, particularly when they lack the emotional capacity to manage these feelings. Since EI is linked to both academic motivation and occupational engagement, it is critical to incorporate programs that teach kids EI in or-

der to lessen stress and provide them with the tools they need to overcome the obstacles that lie ahead [11, 33].

Conclusion

This research aimed to investigate the social-emotional characteristics of college students, focusing on their EI, academic stress levels, and how these factors relate to academic achievement. The findings confirmed existing literature showing that females tend to score higher than males in all dimensions of EI and experience lower levels of academic stress. Furthermore, it was observed that females also tend to have higher average grades compared to males. These findings underscore the importance of considering EI and stress management skills in understanding students' academic performance. Given the significant impact of these factors on academic achievement, the study suggests the necessity of implementing programs aimed at developing EI and coping skills among students. Such programs could potentially improve academic success and contribute to students' future professional development.

Limitations

Limitations of this study included small sample size, the use of self-report questionnaire, and the collection of data from only one city (Jaipur)

Future recommendations

Students can be trained to manage stress as it is essential for their future professional growth and to prevent high levels of anxiety and sadness. A diagnostic of the characteristics of future professionals is necessary for the construction of such programs. In light of this, studies of this kind help to reach this goal as they offer a broad picture of the issue and highlight areas that still require investigation to further the development of these experts.

We can create programs and treatments to enhance EI and coping mechanisms that can reduce the extreme stress and burnout associated with certain professions. Samples can be taken from other parts of India as well.

Ethical Considerations

Compliance with ethical guidelines

The study was approved by the Ethical Committee of College of Physiotherapy and Occupational Therapy, NIMS University (Code: NIMS/PTOT/Feb/2024/53).

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Authors' contributions

Conceptualization and supervision: Janvhi Singh and Dharmita Yogeshwar; Methodology: Pawan Ghosliya; Investigation: Sheenam Popli; Writing: Ajeet Saharan; Final approval: all authors.

Conflict of interest

The authors declared no conflict of interest.

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