

Exploring Gender Differences in Emotional Intelligence, Academic Stress, and Burnout among College Students

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Abstract

Majority of college-level students report experiencing high levels of academic stress, which can lead to burnout. This study aims to analyze the relationship between emotional intelligence, academic stress, and burnout, and whether emotional intelligence works as the mediating variable. We employed quantitative research and bridged surveys with correlational studies to obtain responses from 201 students aged between 18 to 25 years from diverse cultural backgrounds. The results showed that those with higher EI experience decreased academic stress and less burnout, consistent with the thesis that emotional intelligence may act as a buffer. We found significant differences in emotional intelligence but not in academic stress and burnout on the basis of gender.

Keywords: Academic stress, Emotional Intelligence, Burnout, College Students, Gender

1. Introduction

The journey toward achieving long-term goals, adjusting socially, and facing increased academic expectations defines the significant period in a student's life known as college. However, as these pressures often elevate stress levels, they can lead to burnout—a state of physical, emotional, and mental exhaustion caused by prolonged exposure to stressful situations (Maslach et al., 2008). Often, it is observed that factors such as excessive academic demands without supportive mechanisms, rigid academic programs with limited opportunities for in-depth exploration, poor quality of learning experience such as inadequate resources, low-quality teaching and emotional overload can cause burnout (Neumann et al., 1990). Burnout encompasses three key components: exhaustion, reflecting depleted emotional and physical energy; cynicism, indicating emotional detachment from interpersonal interactions; and reduced self-efficacy, involving negative self-assessments (Maslach et al., 2008).

Academic stress is defined as the transient experience of pressure, anxiety, or distress related to achieving academic goals (Pascoe et al., 2020). It is distinguished as a type of situational stress that arises in the educational context and is related to the demands and requirements of the academic environment, among others. Due to the factors associated with this, it is considered to be the key stressor for college students. Among the college students, emotional fatigue, reduced motivation, and a sense of disengagement manifests as burnout from academic responsibilities. This has a significant impact on students' mental

health which in turn has a detrimental effect on academic success. “Students with academic burnout were unwilling to participate regularly in classes and contribute to class activities; also, they showed an inability to learn new lessons and a feeling of meaninglessness” (Rahmatpour et al., 2019). Emotional intelligence (EI) has been defined as “a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one's life” (Salovey & Mayer, 1990). College students who have higher emotional intelligence showed lower levels of anxiety, stress and burnout, because of their ability to adjust to academic pressure (Cazan & Nastasa, 2015). It has also been observed that gender plays a significant role in shaping the interplay between emotional intelligence, stress, and burnout. Existing literatures highlighted that emotional intelligence and stress management strategies differ in males and females thereby altering their experiences of academic stress and burnout. Thus, exploring the gender differences in different contexts, offers valuable insights in how emotional intelligence functions in multifaceted contexts, which is crucial in tailoring and implementing approaches to student support systems.

Students with higher emotional intelligence (EI) are more capable of managing academic stress and preventing burnout (Wizra et al., 2022). Numerous studies have shown that elevated levels of emotional intelligence (EI) correlate with lower instances of stress and burnout, as these emotionally intelligent students can better regulate their emotions, face challenges, and seek out social support (Roy et al., 2021; Taylor et al., 2024). Students who possess high emotional intelligence (EI) are more inclined to use adaptive coping strategies in the classroom, including problem-solving and emotional regulation, which can mitigate the negative impacts of stressors such as workload demands and competitive environments. Due to the demanding nature of their education, college students are particularly influenced by this protective factor, as they experience notable levels of emotional exhaustion and depersonalization (Taylor et al., 2024). Thus, when integrated into school curricula, emotional intelligence (EI) training can enhance students' mental health and resilience.

Academic pressure is also a metaphor for psychological suffering and, finally, burnout among university students. Studies suggest that students who go through a lot of academic pressure have a higher chance of developing emotional exhaustion, low esteem, and mental illness (Yusoff et al., 2021). Emotional intelligence is a protective factor because it helps students control stress better and reduces the odds of distress turning into burnout. Through enhanced self-knowledge, emotional management, and empathy, EI facilitates students to better manage academic stress. They are also able to significantly enhance general wellbeing by employing constructive coping strategies such as seeking assistance and rethinking (Edwin, 2024). This stresses the need for institutions to prioritize mental health support structures approaches focusing on EI to achieve a more supportive learning environment.

In spite of the long-established advantages of EI, the moderating role of gender in the relationship between EI, stress, and burnout is not well researched. Recent studies indicate that male and female students might differ in emotional regulation strategies, EI levels, and reactions to academic stress, but these areas have been given little attention in educational research (Roy et al., 2021). In addition, cultural and environmental influences determine the way people acquire and apply emotional intelligence, which in turn affects their coping styles and stress reactions. Undergraduate students, especially those in multicultural and diverse environments, encounter special challenges like academic overloading, peer rivalry, and career anxiety, which tend to be ignored in general discussions of stress management (Yusoff et al., 2021). Filling these gaps with gender-sensitive EI training and culturally responsive interventions

can assist in adapting stress management strategies to the particular needs of students, ultimately leading to academic achievement and emotional well-being.

2. Method

2.1. Participants

The study included 201 college students from diverse cultural backgrounds, with ages ranging from 18-25 years. The participants were selected through the convenience sampling method, based on the availability and the research environment of the participants. Out of the 201 participants, 101 were undergraduate students and 100 were postgraduate students. The gender distribution consisted of 68 male students and 132 female students. The population represented a diverse range of cultural backgrounds.

2.2 Measures

Emotional Intelligence Questionnaire by Jon Simon Sager consisting of 25 items was used to measure emotional intelligence. The options ranged from strongly agree (5) to strongly disagree (1). The maximum score is 125 and the minimum score is 25. The content validity of the questionnaire was established through expert reviews and was in alignment with existing theories and strong correlations with other well-known EI tests, such as the TEIQue or MSCEIT, which also suggest strong concurrent validity. The internal consistency of the EIQ is 0.75–0.90.

Perceived Academic Stress (PAS) Scale (Bedewy & Gabriel, 2015) self-report questionnaire was used to measure the factor academic stress. The scale consisted of 18 items with the internal consistency reported to be 0.89 on Cronbach's alpha and showing high correlations. The options ranged from strongly agree (5) to strongly disagree (1). The maximum score is 90 and the minimum score is 18.

Copenhagen Burnout Inventory (Kristensen, Borg & Villadsen, 2005) was used to measure burnout consisting of 13 items divided into two parts. Part one has 6 items that measure personal burnout and part two consists of 7 items dealing with work-related burnout. The options ranged from always/to a very high degree (5) to never/to a very low degree (1). The maximum score is 65 and the minimum score is 13. The Cronbach's alpha value for both the Copenhagen Burnout Inventory (CBI) Part 1 and Part 2 is 0.87.

2.3 Procedure

A survey with 3 self-report questionnaires (the Emotional Intelligence Questionnaire, Perception of Academic Stress (PAS) Scale, Copenhagen Burnout Inventory) was given to the participants each assessing the different factors of the research topic. The survey was a google form that was circulated among the participants. Given that gender differences in EI, academic stress, and burnout may be present across various populations, using a survey method enables us to gather data from a wide range of respondents to generalize the findings. We investigated if there are gender-specific differences in the links between academic stress, burnout, and emotional intelligence, and if higher EI is linked to better academic achievement or lower burnout, using correlational analysis. The participants were briefed about the purpose of the research along with the assurance of maintaining confidentiality. Individual participation was voluntary and individuals were free to withdraw at any given moment.

2.4 Data Analysis:

The latest version of the statistical software Jamovi was used to analyse the data. Descriptive statistics was used to summarize the key variables such as emotional intelligence, academic stress, and burnout. To confirm whether significant associations exist to justify further testing of a mediation model, regression analysis was conducted. Specifically, the objective was to test if the factor emotional intelligence acts as a mediator influencing how academic stress would impact burnout. The mediation was quantified through

a series of regression analysis, the results establishing if EI acts as mediator, providing insight into how these factors interact.

3. Results

The research utilized various statistical techniques, such as descriptive statistics, correlation analysis, independent t-tests, regression analysis, and mediation analysis, to examine the connection between emotional intelligence, academic stress, and burnout among college students. Descriptive statistics provided an overview of important variables, whereas correlation analysis assessed the nature of their relationships. Independent t-tests identified gender differences, and regression analysis predicted burnout based on emotional intelligence and academic stress. Mediation analysis checked if emotional intelligence acted as a mediator between academic stress and burnout. These methods aimed to provide a clear insight into how these factors interact in college students.

Table 1

Descriptive Statistics of study variable				
	Age	Emotional Intelligence	Perceived Academic Stress	Burnout
N	201	201	201	201
Mean	21.2	91.8	56.2	41.1
Standard deviation	1.59	15.0	9.13	8.03
Minimum	18	41	32	23
Maximum	25	124	89	64

Table 1 shows the descriptive data for the study variables. It showed that on average, students scored moderately high on emotional intelligence, suggesting a decent capacity for managing emotions and stress ($M = 91.8$, $SD = 15.0$). Students reported moderate levels of academic stress ($M = 56.2$, $SD = 9.13$). The burnout levels were moderate, indicating that some students experienced emotional exhaustion and reduced motivation ($M = 41.1$, $SD = 8.03$). The age range of participants was 18 to 25 years, with an average of 21.2 years.

Table 2

Descriptive Statistics and Correlations for Study Variables

	Variables	M	SD	1	2	3
1.	Emotional Intelligence	91.8	15.0	—		
2.	Perceived Academic Stress	56.2	9.13	0.202*	—	
3.	Burnout	41.1	8.03	-0.186*	0.386**	—
Note: * $p < .05$, ** $p < .01$						

Table 2 shows the descriptive statistics and the correlational relationships between Emotional Intelligence, Perceived Academic Stress and Burnout. It shows a small but significant positive correlation. This suggests that students with higher emotional intelligence tend to report slightly higher academic stress (r

= 0.202, $p < .05$). There is a small but significant negative correlation, indicating that higher emotional intelligence is associated with slightly lower burnout levels ($r = -0.186$, $p < .05$). There is a moderate positive correlation, meaning that students with higher academic stress tend to experience higher burnout ($r = 0.386$, $p < .01$).

Table 3

Means, Standard Deviations, and Differences in the Study Variables based on Gender					
	Male		Female		
	M	SD	M	SD	t
Emotional Intelligence	88.2	15.75	93.7	14.24	2.490*
Perceived Academic Stress	55.9	10.22	56.4	8.55	0.419
Burnout	40.1	7.41	41.6	8.31	1.301
Note. $H_a \mu_1 \neq \mu_2$, * $p < .05$					

Table 3 shows Means, Standard deviation and differences based on gender in Emotional Intelligence, Perceived Academic Stress and Burnout. Female students have significantly higher emotional intelligence scores than male students. Both genders experience similar academic stress levels. Burnout levels are similar between genders.

Table 4
Regression Analysis

Model	R ²	Adjusted R ²	F	p
1	0.209	0.200	25.6	<0.001

Table 4 shows the regression analysis of the variables. Results showed that approximately 20. 9% of the variance in burnout can be accounted for by the interplay of emotional intelligence and academic stress (Model $R^2 = 0. 209$). After correcting for possible overfitting, the model continues to account for 20% of the variance, indicating a moderate effect size (Adjusted $R^2 = 0. 200$). The model holds statistical significance, indicating that the predictors (EI and PAS) significantly clarify variations in burnout levels ($F = 25. 6$, $p < .001$). The t-values of 4.83, -4.11, and 6.62 show that the intercept, emotional intelligence, and academic stress respectively, significantly influence burnout, with strong evidence for their effects.

Table 5

Mediation Estimates							
				95% Confidence Interval			
Effect	Label	Estimate	SE	Lower	Upper	Z	p
Indirect	$a \times b$	-0.0538	0.0211	0.0951	0.0125	2.55	0.011
Direct	c	0.3855	0.0578	0.2723	0.4987	6.68	<.001

Total	$c + a \times b$	0.3318	0.0587	0.2168	0.4468	5.65	<.001
Note: 'a' is the effect of academic stress on emotional intelligence, 'b' is the effect of emotional intelligence on burnout and 'c' is the direct effect of academic stress on burnout, without considering emotional intelligence. The indirect effect ($a \times b$) means that academic stress influences emotional intelligence, which then influences burnout. ' $c + a \times b$ ' is the total effect, including both the direct influence of academic stress on burnout (c) and the indirect influence through emotional intelligence ($a \times b$).							

Table 5 shows the mediational influence of Emotional Intelligence on academic stress and burnout. The indirect effect is noteworthy, suggesting that emotional intelligence partially mediates the connection between academic stress and burnout ($a \times b = -0.0538$, $p = .011$). The direct effect is significant as well, implying that academic stress directly affects burnout even in the absence of the mediator ($c = 0.3855$, $p < .001$).

4. Discussion

The study findings confirmed some significant associations among emotional intelligence (EI), academic burnout, and stress. The negative correlation of EI with burnout implies that increased emotional intelligence serves as a protective factor against students from burnout. Studies have shown that higher trait emotional intelligence (TEI) reduces academic stress and burnout while increasing engagement, as students with high TEI experience lower stress, less exhaustion, and greater emotional and agentic engagement compared to those with low TEI. (McEown et.al 2024). This is consistent with the fact that higher EI is found to be associated with lower burnout levels, particularly by reducing emotional exhaustion and helping students better regulate stress (Harrafa et al., 2019). The findings demonstrated a positive correlation between academic stress and burnout, suggesting that students experiencing higher levels of academic stress show signs of burnout, such as emotional exhaustion and reduced motivation, as previously noted by researchers (Gebregergis et. al. , 2024; Smithikrai et. al. , 2024). Interestingly, a mild positive correlation was discovered between emotional intelligence (EI) and academic stress, which goes against the anticipated results. This may imply that students possessing greater emotional intelligence might be more aware of the academic stress they face and, as a result, indicate higher levels of stress, even though they have better abilities to handle emotions.

The mediating analysis indicated that emotional intelligence partially plays a mediating role in the connection between burnout and academic stress. Molero Jurado et al. (2021) demonstrated that EI, particularly in terms of stress management and mood regulation, mediates the relationship between academic performance and burnout in high school students. This shows that while EI diminishes the influence of academic stress on burnout, the direct relationship between academic stress and burnout continues to be significant. This coincides with the theory that EI serves as a buffer that moderates the severity of burnout but does not eradicate it entirely. Gender was also tested within the study, and it found that females rated significantly higher on emotional intelligence than males. Research has shown that females scored notably higher in the total interpersonal emotional skills score than males (Sojer et al., 2024). Nevertheless, there were no gender differences regarding academic burnout or stress. A study by Malakcioglu et al. (2024) found no considerable difference in academic burnout based on gender. These

findings contradict earlier studies that suggested females were more likely to experience higher levels of burnout. The analysis also highlighted the buffering effect of emotional intelligence as it confirmed that it aids in lessening the impacts of academic stress on burnout.

These findings suggest possible future applications in the academic environment, namely the development of EI training programs whose goal would be emotion management and burnout prevention. Given the moderate relationship between academic stress and burnout, stress management measures such as mindfulness or counseling skills may help counteract the deleterious effects of academic stress. Whereas burnout was not found to differ by gender, higher EI in women could suggest potential for amelioration through interventions that improve male students' emotional regulation capabilities. Future research can explore further the disparity between men and women when it comes to trait EI. This is important because what is indicated from the present research is not a large disparity between the two sexes when it comes to burnout. The results could be biased, so more investigation is required. Also, since the research relied on self-report questionnaires only, future studies can incorporate other approaches such as observing behavior, verifying physical cues, or obtaining feedback from peers for more precise findings. Future studies can also examine what influences the role of EI in academic stress and burnout management. It is important to know how personality, coping mechanisms, and resilience render EI a protective factor. Social and cultural factors are also involved and need to be investigated to determine how they influence emotional intelligence and its impact on stress and burnout. Longitudinal studies can provide further information on how emotional intelligence develops and whether its contribution to coping with stress alters. Additionally, gender-specific program testing can identify whether focused emotional intelligence training can more effectively minimize academic stress and burnout.

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