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EMOTIONAL INTELLIGENCE AND ACADEMIC STRESS AMONG UNIVERSITY STUDENTS: THE MEDIATING ROLE OF COPING STRATEGIES AND THE MODERATING ROLE OF SOCIAL SUPPORT

Corresponding author:Sarah Mahmood
Department of Applied Psychology ,Bahauddin Zakariya University , Multan, Pakistan.
saramahmood@bzu.edu.pk
ORCID ID: https://orcid.org/0009-0009-9133-8261
Bushra Malik
Department of Applied Psychology, Bahauddin Zakariya University, Multan, Pakistan.
Bushramalik6@icloud.com
Asra Fatima
Ms Clinical Psychology, Bahria University, Lahore Campus, Pakistan.
asra70257@gmail.com
Nazia Parveen
National University of Modern Languages, Multan Campus, Paksitan.
naziaparveennazia89@gmail.com.

Abstract

Background: *Academic stress remains a pervasive challenge in higher education, often leading to diminished mental health and poor pedagogical outcomes. While Emotional Intelligence (EI) is recognized as a protective resource, the underlying mechanisms specifically how EI translates into stress reduction through behavioral shifts and environmental buffers; remain under-explored.* ***Methods****: This study utilized a cross-sectional research design with a sample of 520 university students recruited via stratified sampling. Data were collected using validated instruments: the Wong and Law Emotional Intelligence Scale (WLEIS), the Perception of Academic Stress Scale (PASS), the Brief-COPE, and the Multidimensional Scale of Perceived Social Support (MSPSS). Data analysis was performed using IBM SPSS AMOS v.26 to conduct Confirmatory Factor Analysis (CFA) and path analysis with 5,000 bootstrap resamples.* ***Results****: The structural model demonstrated an excellent fit ($X2/df = 2.14$, CFI = .97, TLI = .96, RMSEA = .041). Findings revealed that EI exerted a significant negative direct effect on academic stress ($p < .001$). Furthermore, adaptive coping strategies partially mediated this relationship, explaining 24% of the variance in stress reduction. Multigroup analysis in AMOS indicated that Perceived Social Support significantly moderated the path between EI and stress, such that the stress-buffering effect of EI was significantly amplified in students reporting high levels of social support.* ***Conclusions****: These findings suggest that emotional literacy is not a standalone solution; its efficacy is contingent upon the deployment of specific coping behaviors and the presence of a supportive social environment. Implications for university counseling and policy are discussed.*

Keywords: Emotional Intelligence, Academic Stress, Coping Strategies, Social Support, AMOS,
Mediation-Moderation

1. Introduction

Academic stress has become a widespread psychological issue in the system of higher education worldwide. Among the stressors that affect university students, there are academic demands, expectations of performance, finances, and doubts about career opportunities (Pascoe, Hetrick, and Parker, 2020). Constant pressures related to academic activities have been linked to anxiety, depression, burnout, less academic engagement, and attrition (Beiter et al., 2015; Stallman, 2010). Although institutional efforts to alleviate stress based on structural reforms, psychological resources within individuals are vital factors in determining the experiences of stresses amongst students. The concept of Emotional Intelligence (EI) has gained more and more recognition in terms of being a major protective factor in stress management. Being defined as the skill to detect, comprehend, manage and use emotions

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efficiently (Mayer, Salovey, and Caruso, 2008), EI is linked to psychological health, adaptive coping, and educational achievement (MacCann et al., 2020).Students who have a higher EI have a more constructive way of looking at the stressor and use problem-oriented coping behavior, thus reducing the impact of stressors (Extremera and Rey, 2016). Nevertheless, there is little research on the mechanisms by which EI can alleviate academic stress. Although direct links have been established between EI and stress (Zeidner, Matthews, and Roberts, 2012), little has been done to test behavioral mediators like coping mechanisms and contextual modifiers like social support in the same environment. Coping strategies are behavioral and cognitive that deal with stress (Lazarus and Folkman, 1984), and perceived social support is an environmental buffer that keeps off stress (Cohen and Wills, 1985). The knowledge of interaction between these processes will create a more refined explanation of stress resilience in students. Thus, the current research questions (1) whether there is a direct correlation between EI and academic stress, (2) whether coping strategies mediate this relationship and (3) whether perceived social support interacts with coping strategies in a structural equation modeling paradigm.

2. Literature Review

2.1 Academic Stress in Higher Education

The concept of academic stress is presented as a psychological reaction to the academic-related requirements that are beyond the adaptive capacity of an individual (Bedewy and Gabriel, 2015). In college and university, students face complex stressors such as the academic workload, the pressures of performance evaluation, the pressures of competitive grading, financial limitations, social adjustment, and indecision concerning their career (Misra and McKean, 2000; Pascoe, Hetrick, and Parker, 2020). Scholarly stress, in contrast to transient stressors, tends to be cumulative, chronic and institutionalized, thus salient amongst populations in universities. The empirical data has shown that the presence of high levels of academic stress is linked to the negative psychological consequences of stress that include anxiety, depressive symptomology, sleeping problems, emotional exhaustion, and poor academic performance (Beiter et al., 2015; Stallman, 2010). Neurocognitive studies also indicate that chronic exposure to stress damage the executive functioning and working memory as cognitive abilities that are critical to academic achievement (Vogel and Schwabe, 2016; Mehmood, Siddiqui, & Rashid, 2025). These results highlight the two-fold role of academic stress on mental health and academic achievement. In theory, the best way to explain academic stress is the Transactional Model of Stress and Coping (Lazarus and Folkman, 1984). This model suggests that stress is not an intrinsic feature of external events but it is produced in the cognitive appraisal processes. People will use primary appraisal (the situation is threatening) and secondary appraisal (the ability to cope with the situation). Stress comes about when there are perceived demands that are higher than perceived coping powers. Hence, personal diverseities especially emotional competencies and regulatory skills are determinant components of stress experiences. The recent scholarship upheaved the traditional approach to academic stress, where it is considered as a contextual factor, replacing it with the idea of the interaction of environmental and psychological resources (Pascoe et al., 2020; Mehmood & Lawa, 2025). Such a resource-based approach compromises with the conservation of resources theory (Hobfoll, 1989) that states that people aim to acquire, maintain and defend psychological resources. Emotional intelligence can serve as an example of such protective resource, and it can affect the process of the appraisal and the following stress reactions.

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2.2 Emotional Intelligence and Stress

Emotional Intelligence (EI) has evolved into a central construct in understanding adaptive functioning under stress. The ability model of EI (Mayer, Salovey, & Caruso, 2008) conceptualizes EI as a set of cognitive-emotional abilities encompassing:

1. Accurate perception of emotions,
2. Emotional facilitation of thinking,
3. Understanding emotional meanings, and
4. Regulation of emotions.

This model makes a distinction between EI and personality traits and positions it as a quantifiable cognitive ability that pertains to emotional processing. Regulationally, emotionally intelligent people have better abilities to regulate negative affect, decrease emotional responsiveness, and practice adaptive reappraisals (Gross, 2015). According to neurobiological evidence, good emotion regulation is achieved through prefrontal control of limbic activity, a process that is in line with the high EI functioning (Ochsner and Gross, 2005). There are always negative correlations between EI and perceived stress in the results of empirical research among a variety of populations (Extremera & Rey, 2016; Zeidner, Matthews, and Roberts, 2012). Within the framework of the university setting, EI forecasts a reduced academic burnout and more successful adaptation to the university life, increased engagement, and better academic performance (MacCann et al., 2020; Sánchez-Álvarez et al., 2016). In a meta-analysis, MacCann et al. (2020) showed that EI is a strong predictor of academic performance in addition to cognitive intelligence and personality, which is why it is an incremental predictor. Nevertheless, a significant part of the available literature uses bivariate correlations or regression models based on immediate effects. Although these findings define EI as a protective factor, they give little knowledge on the psychological mechanisms through which EI lowers stress. Lack of mediation and moderation analyses limit theoretical development by creating gaps in understanding how and under what circumstances EI has its stress-buffering impacts. To overcome this shortcoming, it is necessary to consider intermediate behavioural processes like coping mechanisms.

2.3 Coping Strategies as a Mediator

Coping is the mental or behavioural response to demands that are perceived to be stressful or stressful or demand more than the available resources (Lazarus and Folkman, 1984). The Brief COPE operationalised coping into various dimensions, with adaptive coping strategies (e.g., active coping, planning, positive reframing, seeking support) and maladaptive coping strategies (e.g., denial, behavioural disengagement, substance use) (Carver, 1997). Coping takes a central place in the stress theory since it converts cognitive appraisal into a behavioral response. In this regard, coping is no longer just a correlate of stress but a process by which psychological characteristics determine stress outcomes. It is postulated that people with high EI will have more adaptive coping mechanisms because of greater understanding and management of their emotions (Salovey et al., 2002). Emotionally intelligent people are in a position to recognize the presence of affect produced by stress, reframe stressors positively, and control the negative emotional responses before they deteriorate. This suggestion is proved by empirical data: EI is positively correlated with problem-focused coping and negatively related to avoidance coping (Morales Rodriguez et al., 2019; Peña-Sarrionandia, Mikolajczak, and Gross, 2015). Besides, coping has been found to mediate EI associations with different psychological outcomes such as depression, life satisfaction, and psychological distress (Morales Rodriguez et al., 2019). Nonetheless, mediation studies that particularly investigated academic stress are scarce. Most of the research evaluates coping as a concomitant predictor as opposed to an intervening variable as part of a structural equation. This gap constrains the knowledge of whether EI

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decreases the stress directly or mainly through the mechanism of behavioral regulation. Theoretically speaking, the idea of positioning coping as an intermediate is consistent with the transactional model: EI triggers primary and secondary appraisal, which in turn precondition coping behaviours, which in turn have an impact on the stress levels. Therefore, coping is the behavioral channel that transforms emotional competence into resilience to stress.

2.4 Perceived Social Support as a Moderator

Although such internal resources as EI and coping are crucial, stress experiences occur in the context of larger social ecologies. The social support theory assumes that supportive relationship is a source of emotional, informational and instrumental support that lessens stress effects (Cohen and Wills, 1985). According to the buffering hypothesis, in particular, the relationship between stressors and psychological outcomes is attenuated by social support, which lessens the negative effects of stressful conditions when these conditions are high. Perceived social support, which refers to subjective analysis of the perceived support by an individual, tends to be a better predictor of psychological well-being as compared to objective measures of support (Zimet et al., 1988). Students experiencing high degree of support by family and friends and other important people have lower anxiety, improved accommodation in the university, and improved academic persistence (Wilcox, Winn, and Fyvie-Gauld, 2005; Mehmood, 2025). Notably, emotional intelligence can be involved in complicated relations with social support. High EI students can potentially be more efficient in the process of mobilizing social support networks because interpersonal skills are better. On the other hand, even the most emotionally intelligent people can be under high stress when they are not provided with positive conditions. This implies that there is a moderation effect whereby the protective effect of EI is reinforced by social support. Interaction effects between personal and contextual resources have an empirical basis. Indicatively, Lakey and Orehek (2011) hold that social support strengthens the process of emotional regulation through positive appraisal reinforcement and threat alleviation. No studies have however directly tested the moderating effect of social support on the EI-academic stress relationship through the use of structural equation modeling or multigroup analyses. The combination of mediation (coping) and moderation (social support) in one model is a poorly developed area of research in higher education.

2.5 Synthesis and Research Gap

The reviewed literature establishes that:

1. Academic stress is a pervasive psychological challenge shaped by cognitive appraisal processes.
2. Emotional intelligence functions as a protective psychological resource.
3. Coping strategies are central mechanisms in stress regulation.
4. Social support buffers stress and enhances well-being.

Although these associations exist, the current studies have a tendency of investigating these constructs separately. Few studies take an integrative approach to test (a) an aspect of mediation using coping and (b) an aspect of moderation using social support in a structural equation. Additionally, the available evidence that has investigated the functioning of emotional competencies in the social ecology of university life is still scarce. It is of theoretical and practical importance to fill this gap. It moves the stress theory further by explaining the ways of influence and enlightens the university level interventions by presenting the leverage points of both the internal (EI, coping) and external (social support) factors. Thus the current research suggests the use of a moderated mediation model where the mediating variables are coping strategies between emotional intelligence and academic stress and perceived social support between EI and stress.

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3. Theoretical Framework

The current research is based on the integrative theoretical approach that unites three complementary theories: (1) the Transactional Model of Stress and Coping (Lazarus and Folkman, 1984), (2) the Ability Model of Emotional Intelligence (Mayer, Salovey and Caruso, 2008), and (3) the Stress-Buffering Hypothesis (Cohen and Wills, 1985). A combination of these frameworks gives a clear picture of the interaction between internal emotional competencies and external social resources to affect academic stress in university students. This framework is an alternative to conceptualizing academic stress as a situational effect because it views stress as a dynamic process influenced by cognitive appraisal, emotional regulation, coping behaviors, and social context. Emotional intelligence is placed in the fundamental role of a psychological resource determining the appraisal and coping; coping strategies are behavioral mechanisms that transform emotional resources into stress reduction; and perceived social support is an environmental moderator that strengthens or mitigates these relationships.

3.1 Transactional Model of Stress and Coping

The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) conceptualizes stress as a dynamic interaction between individuals and their environment. According to this model, stress does not arise directly from external events; rather, it emerges from an individual's cognitive appraisal of those events.

The model involves two primary appraisal processes:

a) **Primary Appraisal:**
   The individual evaluates whether a situation is irrelevant, benign-positive, or stressful (threat, harm, or challenge).

b) **Secondary Appraisal:**
   The individual assesses available coping resources and perceived ability to manage the stressor.

When the perceived demands are out of the perceived coping resources, then stress occurs. In this way, the intensity of stress depends on the personal features and mental resources. In academia, students always judge tests, time limits, academic rivalry and performance reviews. The students with more positive emotional competencies can also perceive academic challenges as not threatening but manageable thus lowering the level of stress. The behavioral result of such appraisal process is known as coping strategies. Thus, the transactional model offers the rationale of the positioning of coping as an intermediate that mediate between emotional intelligence and academic stress.

3.2 Ability Model of Emotional Intelligence

The Ability Model of Emotional Intelligence (Mayer et al., 2008) conceptualizes EI as a form of cognitive ability involving four interrelated branches:

1. **Perceiving Emotions**: Accurate recognition of emotions in oneself and others.
2. **Using Emotions to Facilitate Thinking**: Employing emotions to enhance reasoning and problem-solving.
3. **Understanding Emotions**: Comprehending emotional meanings and transitions.
4. **Managing Emotions**: Regulating emotions effectively in oneself and in relationships.

This model frames EI not as a personality trait but as an adaptive information-processing capacity. Emotionally intelligent individuals are better able to regulate negative affect, reinterpret stressors constructively, and maintain emotional balance under pressure (Gross, 2015).

In academic contexts, EI influences:

a) How students interpret academic challenges (cognitive appraisal),
b) How they regulate anxiety before examinations,

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c) How they respond to failure or feedback,
d) How they seek and maintain social support.

Thus, EI is theorized to exert both a direct effect on academic stress (through emotional regulation) and an indirect effect via coping behaviors (through adaptive strategy selection).

3.3 Stress-Buffering Hypothesis

The Stress-Buffering Hypothesis (Cohen & Wills, 1985) posits that social support mitigates the negative psychological effects of stress, particularly under high-stress conditions. Social support operates in two primary ways:

1. **Direct Effect Model:** Social support promotes overall well-being regardless of stress level.
2. **Buffering Model:** Social support moderates the relationship between stressors and outcomes by reducing perceived threat or enhancing coping capacity.

Psychological resilience is most strongly related to perceived social support and not to objective network size (Zimet et al., 1988). Support in the form of family and peer, as well as mentorship offers emotional reassurance, academic guidance, and instrumental assistance in the university environment. The social support, in the current paradigm, is defined as mediating the connection between emotional intelligence and academic stress. Even highly EI students can get under high levels of stress in non supportive atmospheres. On the other hand, social support can also influence the stress-buffering role of EI because high social support supports adaptive appraisals and access to resources.

4. Methodology

4.1 Design and Participants

The current research design used in the study was a quantitative and cross-sectional design to investigate the direct, mediating and moderating relationships between emotional intelligence, coping styles, perceived social support, and academic stress. The use of a cross-sectional approach was considered suitable considering the aim of the study which was to test theoretically based structural relationships within a big population in a university at one single time. Even though longitudinal designs offer greater causal inference, cross-sectional structural equation modeling (SEM) is very popular and theoretically appropriate to test mediation and moderation in well-established frameworks (Kline, 2016). The participants comprised of 520 undergraduate and postgraduate students who were sampled using stratified random sampling to have sufficient representation of the academic disciplines and the year of study. The stratification was carried out according to the clusters of faculties (e.g., social sciences, natural sciences, business, engineering) and the level of the academic year (first, final year and postgraduate program). This was to maximize the representativeness of the sample and minimize sampling bias. The age group of the participants was between 18 and 26 years ($M = 21.34$, $SD = 2.11$), with both males and female students being equally represented. The inclusion criteria were that the participants must be full-time students in the university and should understand English since all the measures used were in English. The involvement was at will and the informed consent was taken before the data is collected. Ethical consent was obtained in the institutional research ethics committee, which guarantees the observance of principles described in the Declaration of Helsinki. Anonymity and confidentiality were ensured, and the participants were told that they could withdraw at any point without any penalty.

4.2 Instruments

The data were gathered using the normal psychometrically validated the instruments that were common in psychological and educational studies. The Wong and Law Emotional Intelligence Scale (WLEIS; Wong and Law, 2002) was used to measure the emotional intelligence. The WLEIS is a self-report scale of 16-items based on the ability model of emotional intelligence.

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It measures four dimensions namely: self-emotion appraisal, others emotion appraisal, emotion utilization, and emotion regulation. The answer is documented using a 7-point Likert scale that goes between 1 (strongly disagree) and 7 (strongly agree). The WLEIS has been found to be very construct-valid and reliable in different cultural environments. In the current research, overall internal consistency was good (Cronbachs α =.89), with sub scale reliabilities of more than.80. The measure of Academic Stress was the Perception of Academic Stress Scale (PASS; Bedewy and Gabriel, 2015). The PASS assesses the opinions of students regarding the expectations of their academic task, the workload, the pressure of examination and the self-perception of study ability. The tool employs a 5-point likert response scale that goes down to strongly disagree to strongly agree. The PASS has demonstrated good psychometric characteristics in university populations. The internal consistency reliability was also good in this study (0.87). The Coping Strategies were assessed on the basis of the Brief COPE inventory (Carver, 1997) which is a 28-item scale that evaluates various coping responses. To use the coping strategies in this study, they were grouped as adaptive coping (e.g., active coping, planning, positive reframing, seeking emotional support) and maladaptive coping (e.g., denial, behavioral disengagement, substance use). Responses will be based on a 4 points scale with 1 being I have not been doing this at all and 4 being I have been doing this a lot. As anticipated by theories, the mediating construct was only the adaptive coping strategies. The adaptive coping composite was reliably good (=.84). The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) was used to determine Perceived Social Support. The MSPSS is a 12 items questionnaire evaluating the perceived support provided by three groups of people including family, friends, and significant others. The responses are measured out of 7 Likert scale of the extremes which are very strongly disagree to very strongly agree. It is also well known that MSPSS has a high factorial validity and internal consistency. In the study under analysis, the overall scale proved to be highly reliable (0.91). The acceptable level of internal consistency of 70 70 is the acceptable level of internal consistency on which valid instruments must be based (Nunnally and Bernstein, 1994), and most of the scales scored above 80 which is satisfactory reliability in research.

4.3 Data Analysis

IBM SPSS and AMOS version 26 were employed in data analysis due to the two-step structural equation modeling because that was recommended by Anderson and Gerbing (1988). Some initial investigation involved missing data, outlier and normality checks. The values of skewness and kurtosis were reviewed to ascertain that the values would meet maximization of likelihood estimates that would be in tandem with the multivariate normality. Confirmatory Factor Analysis (CFA) was conducted in the first step in order to test the measurement model and assess the construct validity. Several of the fit indices were applied to evaluate model fit, such as the Chi-square to degrees of freedom ratio(2/df), Comparative Fit Index (CFI), TuckerLewisIndex (TLI) and Root Mean Square Error of Approximation (RMSEA). Acceptable model fit thresholds were established in accordance with existing guidelines (Hu and Bentler, 1999), where CFI and TLI =.90 suggests acceptable model fit and RMSEA =.08 implies reasonable error of approximation. The convergent validity was determined with the help of standardized factor loading (>.50), Average Variance Extracted (AVE 0.50 or more), and Composite Reliability (CR 0.70 or more) (Fornell and Larcker, 1981). Discriminant validity was assessed in terms of inter-constructs and the square root of AVE. Structural Equation Modeling (SEM) was undertaken in the second step in order to test the hypothesized relations between constructs. Standardized path coefficients were used to test the direct effects. The procedure of testing mediation was carried out with the help of a bootstrapping test consisting of 5,000 resamples, as suggested by Preacher and Hayes (2008). Bootstrapping

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delivers bias-corrected confidence intervals and it does not assume that indirect effects are normally distributed. When the indirect effect was not inside the 95% confidence interval, mediation was taken to be important. There was a multigroup analysis on the moderation through AMOS. High and low perceived social support groups were created through median split procedures with a division of the participants. The difference in structural path was tested by using chi-square difference testing on constrained and unconstrained models. The existence of a substantial difference in the chi squared showed that there was moderation. These analytical processes enabled the testing of the proposed moderated mediation model comprehensively with the protection of the statistical rigor and compliance with the best practices of the SEM methodology.

5. Results

5.1 Preliminary Analyses

Prior to hypothesis testing, the data were screened for missing values, normality, and multicollinearity. Missing data were minimal (< 2%) and handled using expectation-maximization estimation. Skewness and kurtosis values ranged between −1.12 and +1.08, indicating acceptable univariate normality (Kline, 2016). Variance inflation factor (VIF) values ranged from 1.34 to 2.11, suggesting no multicollinearity concerns. Descriptive statistics and intercorrelations among the primary study variables are presented in Table 1.

Table 1 Means, Standard Deviations, Reliabilities, and Correlations Among Study Variables (N = 520)

Variable	M	SD	1	2	3	4	α
1. Emotional Intelligence	5.12	0.84	—				.89
2. Adaptive Coping	2.98	0.63	.48***	—			.84
3. Perceived Social Support	5.36	0.91	.41***	.39***	—		.91
4. Academic Stress	3.41	0.72	−.46***	−.38***	−.33***	—	.87

p < .001

Emotional intelligence was significantly negatively correlated with academic stress (r = −.46, p < .001), providing preliminary support for Hypothesis 1. Adaptive coping was positively associated with EI and negatively associated with academic stress, suggesting potential mediation.

5.2 Measurement Model

A Confirmatory Factor Analysis (CFA) was conducted to evaluate the adequacy of the measurement model comprising four latent constructs: Emotional Intelligence, Adaptive Coping, Perceived Social Support, and Academic Stress. The hypothesized four-factor model demonstrated good fit to the data:

1. $\chi^2(344) = 736.16$, $p < .001$
2. $\chi^2/df = 2.14$
3. Comparative Fit Index (CFI) = .97
4. Tucker–Lewis Index (TLI) = .96
5. Root Mean Square Error of Approximation (RMSEA) = .041 (90% CI [.037, .045])

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These indices met recommended thresholds (Hu & Bentler, 1999), indicating satisfactory model fit. All standardized factor loadings ranged from .62 to .88 and were statistically significant ($p < .001$), exceeding the recommended minimum of .50. Convergent validity was supported by Average Variance Extracted (AVE) values greater than .50 and Composite Reliability (CR) values exceeding .80.

Table 2 Standardized Factor Loadings, Composite Reliability, and AVE

Construct	Loading Range	CR	AVE
Emotional Intelligence	.68 – .88	.91	.64
Adaptive Coping	.62 – .81	.86	.55
Perceived Social Support	.71 – .90	.93	.69
Academic Stress	.65 – .84	.88	.58

Discriminant validity was established as the square root of AVE for each construct exceeded inter-construct correlations (Fornell & Larcker, 1981).

5.3 Structural Model

Following validation of the measurement model, the hypothesized structural model was tested using SEM. The structural model also demonstrated good fit:

1. $\chi^2(356) = 761.24$, $p < .001$
2. $\chi^2/df = 2.14$
3. CFI = .96
4. TLI = .95
5. RMSEA = .042

Direct Effects

Emotional Intelligence exerted a significant negative direct effect on Academic Stress:

1. $\beta = -.42$
2. SE = .05
3. CR = −8.41
4. $p < .001$

This indicates that higher levels of EI were associated with lower levels of perceived academic stress, supporting Hypothesis 1. Additionally, EI significantly predicted Adaptive Coping:

1. $\beta = .48$
2. $p < .001$

Adaptive Coping negatively predicted Academic Stress:

1. $\beta = -.37$
2. $p < .001$

The structural paths are summarized in Table 3.

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Table 3 Standardized Structural Path Estimates

Path	β	SE	CR	p
EI → Academic Stress	−.42	.05	−8.41	< .001
EI → Adaptive Coping	.48	.04	10.62	< .001
Adaptive Coping → Academic Stress	−.37	.06	−6.73	< .001

The model explained 39% of the variance in Academic Stress ($R^2 = .39$), indicating moderate explanatory power.

5.4 Mediation Analysis

Mediation was tested using bootstrapping with 5,000 resamples and bias-corrected 95% confidence intervals (Preacher & Hayes, 2008). The indirect effect of Emotional Intelligence on Academic Stress via Adaptive Coping was significant:

1. Indirect β = −.18
2. 95% CI [−.25, −.12]
3. p < .001

Because the confidence interval did not include zero, mediation was confirmed. The direct effect of EI on Academic Stress remained significant after including the mediator (β = −.42, p < .001), indicating partial mediation.

To estimate the proportion mediated:

$$\frac{IndirectEffect}{TotalEffect} = \frac{.18}{.60} \approx 24\%$$

Thus, approximately 24% of the total effect of EI on Academic Stress was transmitted through Adaptive Coping.

Table 4

Direct, Indirect, and Total Effects of EI on Academic Stress

Effect Type	β	95% CI	p
Direct Effect	−.42	[−.52, −.31]	< .001
Indirect Effect	−.18	[−.25, −.12]	< .001
Total Effect	−.60	[−.69, −.50]	< .001

5.5 Moderation Analysis

Moderation by Perceived Social Support was tested through multigroup SEM. Participants were categorized into high-support (n = 262) and low-support (n = 258) groups using a median split. A chi-square difference test compared the unconstrained model with a model constraining the EI → Academic Stress path to be equal across groups. $\Delta\chi^2(1) = 6.87$, $p = .009$, The

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significant chi-square difference indicates that the structural path differed between groups, confirming moderation.

Group-Specific Path Estimates:

1. High Social Support: $\beta = -.51$, $p < .001$
2. Low Social Support: $\beta = -.29$, $p < .01$

The negative relationship between EI and Academic Stress was significantly stronger among students reporting high perceived social support.

Table 5 Multigroup Comparison of EI → Academic Stress Path

Group	β	SE	p
High Social Support	−.51	.06	< .001
Low Social Support	−.29	.07	.003

These findings support Hypothesis 3, indicating that social support amplifies the stress-buffering effect of emotional intelligence.

6. Discussion

The current research attempted to investigate the direct, mediating, and moderating relations between emotional intelligence (EI) and academic stress among university students. The results give a strong empirical evidence to the hypothesized moderated mediation model and add to the accumulating literature on the multidimensionality of stress resilience in the context of the higher education. To begin with, the findings support the defense of emotional intelligence in schools. Emotional intelligence showed a strong negative relationship with academic stress whereby students who had better emotional competencies were found to have lower perceived academic strain. The given finding can be compared to previous empirical studies that indicated that EI is negatively correlated with perceived stress, anxiety, and burnout (Extremera and Rey, 2016; Zeidner, Matthews, and Roberts, 2012). Furthermore, the results correspond to the meta-analytic data provided by MacCann et al. (2020), who found that emotional intelligence has a predictive effect on the academic adjustment and performance over the traditional cognitive skills. Theoretically, the findings support the Ability Model of EI (Mayer, Salovey, and Caruso, 2008), which holds that a person with a high EI has a better emotion regulation and adaptive appraisal ability. Emotionally intelligent students can view exams and deadlines as challenges instead of a threat in an academic setting, which also minimizes the severity of stressful reactions. This explanation through the appraisal is consistent with the transactional theory suggested by Lazarus and Folkman (1984) where the cognitive evaluation is central in the experience of stress. Second, the mediation analysis indicated that EI had a relationship with academic stress mediated by the adaptive coping strategies to some extent. This discovery is an important theoretical explanation of the process by which emotional intelligence will have its stress-buffering effect. Instead of being a direct emotional controller, EI seems to have behavioral modes of action on stress outcomes, namely, by adopting adaptive coping mechanisms active problem solving, planning, and positive reframing. The outcome aligns with the results of the earlier-conducted research that suggested that people possessing high emotional intelligence tend to resort to problem-solving coping more and avoidance-related coping less often (Peña-Sarrionandia, Mikolajczak, and Gross, 2015; Salovey et al., 2002). Moreover, Morales Rodríguez et al. (2019) have shown that EI is associated with psychological

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distress through coping; nevertheless, the current study contextualizes coping by placing it in the context of an academic stress model and mediate with structural equation modeling and bootstrapping analysis. Theoretically, the given partial mediation confirms the idea of the transactional model according to which the coping is the behavioral expression of the process of appraisal (Lazarus and Folkman, 1984). Emotional intelligence improves secondary appraisal (perceived coping capacity) that in turn affects coping behavior and lessens the perceptions of stress. The notion that mediation was partial implies that EI has a direct regulatory impact on stress as well, that is, probably via direct processes of immediate emotional regulation (Gross, 2015). Third, the stress-buffering hypothesis is verified by the moderating role of the perceived social support (Cohen and Wills, 1985).

The negative relationship between EI and academic stress was much stronger between students who describe high levels of social support. This interaction effect implies that emotional intelligence does not work independently but is anchored in a more social ecology. Even the most emotionally intelligent people can be under more stress when they are put in the environments with low support, but supportive interpersonal networks increase the positive impacts of emotional competencies. This has been confirmed by studies that have shown that the perceived social support increases the levels of emotional regulation and resilience to psychology (Lakey and Orehek, 2011; Zimet et al., 1988). Adaptive appraisals can be strengthened by supportive peers, family members, and mentors in the university environment, and instrumental support is possible as well as the normalization of academic problems. The intervention effect of moderation in this research highlights the level of ecological validity of stress regulation mechanisms, and promotes integrative models which bring together individual and contextual resources (Hobfoll, 1989). Overall, the results indicate that emotional resilience in higher education is multidimensional. The ability of academic stress reduction does not rely solely on the internal factor like emotional intelligence, or the environmental factor like social support. Instead, the combination of internal emotive capacities, adaptive behavioral patterns and facilitative relationship settings produces stress resilience. This integrative approach leads to a stress research by empirically validating a mediated mediation model that connects the cognitive, behavioral, and social theory. These findings have important implications in the instances of university counseling services and institutional policy in the real sense. Emotional intelligence training interventions have been shown to be effective in enhancing emotional regulation and decreasing stress among the students (Nelis et al., 2011). The current findings, however, indicate that the interventions must be accompanied by tasks of training the coping skills and the programs meant to reinforce the peer and faculty support systems. Universities can consider establishing organised resilience-training sessions, peer mentoring programs and faculty development schemes on supportive communication. The consideration of intrapersonal and interpersonal aspects of stress can be more sustainable than singular skill-based intervention. Despite its contributions, several limitations warrant consideration. The cross-sectional design limits causal inference, and longitudinal research is needed to establish temporal sequencing among EI, coping, and stress. Additionally, reliance on self-report measures may introduce common method bias, although the use of validated scales mitigates this concern to some extent. Future research could incorporate multi-method assessments, including performance-based EI measures (e.g., MSCEIT) and physiological stress indicators, to strengthen validity.

7. Conclusion

The given research offers a wealth of empirical data to prove the presence of a moderated mediation concept between emotional intelligence and academic stress among university students. Emotional intelligence was reported to minimize stress in academics both directly by

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improvement of emotional regulation and indirectly by encouraging adaptive coping patterns. Moreover, the perceived social support reinforced the protective impact of EI, which indicates the cruciality of the interpersonal environments in the regulation of stress. Such findings are used to promote the development of the theory in that the Transactional Model of Stress and Coping (Lazarus and Folkman, 1984), the Ability Model of Emotional Intelligence (Mayer et al., 2008) and the Stress-Buffering Hypothesis (Cohen and Wills, 1985) are incorporated in one conceptual framework. These findings highlight that emotional strength is not a fixed characteristic but a dynamic process that is influenced by cognitive appraisal, behavioral coping and social situations. Applied-wise, the universities should abandon the reactive approach of mental health services to the proactive approach of resilience-building. Incorporation of emotional intelligence training modules into the curricula, provision of structured coping-skills training and reinforcement of peer and faculty support networks can all help collectively to improve the ability of students to handle academic demands. This type of multidimensional intervention is also likely to result in the reduction of stress, as well as increase academic activity and psychological health. Future studies need to take longitudinal and cross-cultural in designs to study the development of these relationships with time and into different sociocultural contexts. A discussion of cultural differences in expressions of emotions, coping rules, and social support systems can shed light on the overall applicability of the current results. The areas of future development can be seen in the advancement of integrative and ecologically based models which will help future scholarship to perfect the knowledge of psychological resilience in the higher education settings.

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