



Academic Burnout and Psychological Well-Being among University Students in Pakistan: The Moderating Role of Resilience

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ABSTRACT

Academic burnout is a critical issue in higher education, driven by increasing academic demands, elevated performance expectations, and psychosocial pressures experienced by students. These factors can negatively affect psychological well-being, while resilience may serve as a protective psychological resource. The present study investigated the relationship between academic burnout and psychological well-being among university students in Pakistan and evaluated the moderating role of resilience. A quantitative cross-sectional design was utilized, with participants recruited from higher education institutions in Pakistan. Data were collected using validated instruments to assess academic burnout, psychological well-being, and resilience. Descriptive statistics, correlation analysis, and moderation analysis were performed to examine associations among the study variables and to determine whether resilience moderated the relationship between academic burnout and psychological well-being. The findings revealed that academic burnout was negatively associated with psychological well-being, indicating that higher levels of burnout were linked to poorer psychological functioning. Resilience was positively associated with psychological well-being and moderated the negative relationship between burnout and well-being, demonstrating a buffering effect. These results underscore the significance of resilience as a protective resource in the context of academic stress. It is recommended that universities implement resilience-building initiatives, psychosocial support services, and preventive strategies to reduce burnout and enhance students' psychological well-being.

Introduction

University education represents a critical developmental stage characterized by intellectual advancement, identity formation, increased autonomy, and preparation for professional careers. Concurrently, university students encounter substantial academic and psychosocial pressures, including examinations, competitive environments, heavy workloads, financial challenges, uncertainty regarding future employment, and expectations from families and institutions. When persistent demands surpass students' perceived coping abilities, chronic academic stress and, ultimately, academic burnout may result. Academic burnout is a significant concern in higher education due to its detrimental effects on students' learning, academic performance, motivation, and psychological well-being.

Academic burnout refers to a persistent negative psychological condition resulting from prolonged exposure to academic demands and stressors. It is typically conceptualized through three interrelated dimensions: emotional or academic exhaustion, cynicism or detachment from study, and a diminished sense of academic efficacy. Schaufeli et al. (2002), in a cross-national study of university students, demonstrated that the concept of burnout can be effectively extended from occupational to academic contexts. Their findings validated exhaustion, cynicism, and reduced efficacy as key dimensions of student burnout and indicated that these components are closely linked to academic functioning. Thus, academic burnout represents a sustained deterioration in students' engagement with their studies, rather than temporary examination stress or occasional fatigue.

The consequences of academic burnout are considerable, as university students must manage both educational responsibilities and broader developmental challenges. Sustained exhaustion impairs concentration and academic engagement, while cynicism fosters psychological distance from learning and diminishes commitment to educational objectives. Recent research demonstrates a strong connection between academic burnout and students' psychological functioning. For example, Al-Awad (2024) identified substantial relationships among academic stress, burnout, and resilience in medical students, highlighting the importance of psychological resources in understanding responses to demanding academic environments. Longitudinal evidence further indicates that burnout and psychological resources influence students' well-being over time, rather than representing isolated short-term experiences (Ríos-Risquez et al., 2018).

Psychological well-being provides a comprehensive framework for examining the broader effects of academic burnout. Unlike definitions of mental health that focus solely on the absence of psychological distress, psychological well-being emphasizes positive psychological functioning. Ryff and Keyes (1995) conceptualized psychological well-being through six dimensions: autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance. This multidimensional perspective is particularly relevant for university students, as higher education necessitates not only academic achievement but also the development of independence, meaningful goals, interpersonal relationships, and confidence in managing complex environments. Persistent academic burnout may undermine several of these dimensions by reducing motivation, perceived competence, positive self-evaluation, and the ability to manage academic and personal demands.

Empirical studies consistently demonstrate an inverse relationship between academic burnout and psychological well-being. Yu and Chae (2020) found that psychological well-being was negatively correlated with academic burnout among medical students, while resilience was positively associated with psychological well-being. Longitudinal research with nursing students also revealed significant connections among academic burnout, resilience, and psychological well-being, indicating dynamic interactions among these constructs during educational experiences (Ríos-Risquez et al., 2018). Recent studies further highlight significant associations among subjective well-being, psychological resilience, academic stress, and academic burnout, underscoring the importance of positive psychological resources in understanding student burnout (Shan et al., 2026).

Resilience is a psychological resource that plays a critical role in the relationship between academic burnout and psychological well-being. It refers to an individual's capacity to adapt, recover, and maintain functioning when confronted with adversity, stress, or significant demands. Connor and Davidson (2003) conceptualized resilience as a key indicator of effective stress-coping ability and demonstrated its reliable measurement as an individual psychological resource. Within higher education, resilience enables students to respond adaptively to academic setbacks, examination pressure, demanding workloads, and uncertainty. Rather than eliminating academic stressors, resilience may determine the extent to which these stressors affect students' psychological functioning.

Research increasingly demonstrates that resilience is associated with lower academic burnout and improved well-being outcomes. Wang et al. (2022), using a three-wave longitudinal design, identified significant associations among academic burnout, resilience, and life satisfaction in medical students. These findings provide important longitudinal evidence that resilience is relevant for understanding responses to burnout over time. Similarly, YoverChae (2020) reported that resilience significantly explained psychological well-being in students experiencing academic burnout. Although their study conceptualized resilience as a mediator, the results support examining resilience through alternative models, such as moderation.

The moderating perspective is valuable because it examines whether the strength of the relationship between academic burnout and psychological well-being varies according to students' resilience levels. From this perspective, students experiencing similar levels of academic burnout may not exhibit equivalent declines in psychological well-being. Greater resilience enables students to regulate emotional responses, adapt to academic challenges, mobilize coping resources, and recover from setbacks more effectively. Consequently, the negative association between academic burnout and psychological well-being may be less pronounced among

highly resilient students compared to those with lower resilience. Resilience can therefore be conceptualized as a buffering resource, rather than solely as an independent variable associated with well-being.

This issue is particularly relevant in Pakistan's higher education context, where university students encounter intensive academic expectations alongside financial, familial, social, and career-related pressures. Recent evidence from Pakistan indicates that academic burnout is a significant concern among student populations. Khan et al. (2023), in a study of accountancy students, found that academic resilience was negatively associated with academic burnout and played a key role in explaining students' responses to academic demands. Similarly, Tanveer and Kamran (2023) investigated academic burnout and psychological well-being among young adults in Pakistan, reporting evidence of an association between these constructs. These findings underscore the importance of burnout and psychological resources in the Pakistani context and highlight the need for further research into mechanisms that protect students' well-being.

Despite increased research on student burnout, significant gaps remain. Many studies have focused on specialized populations, such as medical and nursing students, or have examined resilience as a direct predictor or mediator rather than explicitly testing its moderating function (Ríos-Risquez et al., 2018; Yu & Chae, 2020). While Pakistani research has addressed burnout, resilience, mindfulness, and related psychological factors, evidence specifically investigating whether resilience alters the strength of the association between academic burnout and psychological well-being in a broader university student population remains limited (Khan et al., 2023; Tanveer & Kamran, 2023). Establishing this moderating effect would provide a more nuanced understanding of why students facing similar academic pressures may exhibit different psychological outcomes.

This study examines the relationship between academic burnout and psychological well-being among university students in Pakistan, focusing on the moderating role of resilience. It is hypothesized that higher academic burnout will be associated with lower psychological well-being, and that resilience will function as a protective psychological resource by buffering the negative association between burnout and well-being. Understanding this interaction may advance the literature on student mental health and positive psychological functioning, while providing practical evidence for university-based interventions. Specifically, the findings may inform counseling services, resilience-building programs, stress-management initiatives, and institutional strategies aimed at reducing the psychological consequences of persistent academic demands and promoting healthier, more adaptive university experiences.

Literature Review

Academic burnout is a growing concern in higher education, as ongoing educational demands can erode students' motivation, emotional well-being, and learning effectiveness. Unlike transient academic strain, burnout involves a persistent pattern of exhaustion, disengagement, and reduced accomplishment that emerges when students perceive educational demands as consistently surpassing their available resources. Recent research suggests that academic burnout should not be viewed merely as an individual deficiency; rather, it arises from the complex interaction among workload, perceived stress, psychological resources, interpersonal environments, and students' adaptive capacities.

Empirical evidence reveals substantial variation in the experience of burnout among student populations. Li et al. (2026), in a study involving 2,948 university students, identified distinct low-, medium-, and high-burnout profiles, demonstrating that students in comparable educational settings may display different patterns of exhaustion and disengagement. The study further associated burnout profiles with behavioral and psychological characteristics, including sleep quality, mindfulness, and problematic smartphone use. These findings support a multidimensional understanding of academic burnout, indicating that vulnerability is shaped by both individual traits and daily behavioral patterns.

Stress consistently emerges as a primary precursor of academic burnout. University students frequently juggle examinations, assignments, presentations, attendance, competitive grading, career preparation, and personal obligations. When these demands accumulate without adequate opportunities for recovery, persistent stress may lead to emotional exhaustion and academic detachment. Longitudinal research by Zhang et al. (2025) identified a significant relationship between stress and subsequent academic burnout among university students. The study also found that self-esteem and social support influence the mechanisms connecting stress to burnout. This evidence indicates that academic demands alone do not fully explain burnout; psychological and social resources also play critical roles in shaping students' experiences of educational pressure.

Research on the balance between students' effort and the rewards received from academic participation further supports the resource-based perspective. Ma et al. (2026) reported that an effort-reward imbalance correlates with academic burnout, with frustration and perceived stress mediating this association. Students who consistently invest substantial effort but perceive

insufficient recognition, progress, achievement, or psychological reward are more susceptible to exhaustion. This perspective is particularly pertinent in competitive university environments, where academic achievement frequently requires sustained investment without immediate or guaranteed returns.

Psychological well-being encompasses positive psychological functioning rather than simply the absence of mental illness. Within university settings, it includes students' abilities to maintain meaningful goals, establish positive relationships, accept themselves, manage their environment, experience personal growth, and function autonomously. Academic experiences can either enhance or undermine these dimensions. A stimulating and supportive educational environment may promote competence and personal development, whereas persistent academic overload can disrupt emotional stability, self-evaluation, social relationships, and sense of purpose.

Empirical research consistently identifies an inverse relationship between burnout and positive psychological outcomes. Indreswari et al. (2022), in a study involving 180 students, found a significant negative association between psychological well-being and academic burnout. Students with higher psychological well-being reported lower levels of burnout, highlighting a strong connection between positive psychological functioning and academic exhaustion. This relationship is practically significant, as reduced well-being can negatively impact students' emotional states, engagement in educational activities, and capacity to respond constructively to academic challenges.

Burnout influences well-being through several mechanisms. Emotional exhaustion can reduce the energy required for meaningful engagement in academic and social activities. Cynicism toward study may erode students' sense of purpose and connection to educational goals, while perceived academic inefficacy can diminish confidence and self-assessment. Consequently, prolonged burnout affects not only academic performance but also broader psychological functioning. Recent research further demonstrates that positive psychological characteristics are associated with lower burnout and greater emotional suggesting suggeststudents' available resources partly shape sting that the relationship between academic demands and mental sources.

This pattern holds particular relevance in Pakistan. Sarwer et al. (2025) studied undergraduate students from public and private universities in Lahore and found that positive psychological attributes were significantly associated with higher emotional stability and lower academic burnout. These results indicate that the psychological consequences of academic demands are pertinent in Pakistani higher education and are not limited to Western or East Asian university contexts. Such evidence reinforces the importance of investigating psychological resources that may enable Pakistani students to maintain healthier functioning amid substantial educational pressures.

Resilience has garnered significant attention in educational psychology because it helps explain why individuals facing similar adversity may experience markedly different outcomes. In academic contexts, resilience refers to the capacity to adjust constructively to setbacks, maintain functioning under pressure, recover after difficulties, and mobilize internal or external resources when demands intensify. Resilient students are not necessarily free from stress; rather, they possess a greater capacity to manage stress without experiencing prolonged psychological decline.

Empirical evidence demonstrates a meaningful inverse association between resilience and academic burnout. Vizoso-Gómez and Arias-Gundín (2018) investigated resilience and optimism among university students and found that these positive psychological characteristics were related to burnout dimensions. Their findings suggest that resilience can operate as a personal resource that helps students remain engaged and psychologically functional when confronting academic difficulties. This interpretation shifts attention away from simply reducing educational demands and toward strengthening students' capacity to adapt effectively.

Further evidence supports this relationship across diverse student groups. Smith et al. (2021), in a study of undergraduate accounting students, investigated resilience in relation to psychological distress and academic burnout. Their findings underscore the importance of resilience in understanding the psychological consequences associated with burnout. This evidence suggests that resilience is relevant beyond medical or health-profession education and may have broader applicability across university disciplines.

Resilience is also linked to behavioral mechanisms that may indirectly reduce vulnerability to burnout. Chen et al. (2022) investigated physical exercise, self-efficacy, resilience, and academic burnout among college students. Their analysis showed that self-efficacy and resilience contributed to the pathways by which physical activity was associated with lower burnout. This finding suggests that protective psychological capacities can develop alongside health-promoting behaviors and that resilience should be viewed as part of a broader adaptive system rather than as an isolated personality trait.

Similarly, Gong et al. (2023) examined learning stress, psychological resilience, and learning burnout among college students. Their findings revealed interconnected relationships among these constructs, highlighting that resilience may enable students to respond more effectively to increasing academic pressure. This evidence is particularly relevant for university populations, as completely eliminating academic stress is unrealistic. Educational institutions must therefore adopt strategies that address both environmental pressures and the psychological capacities students employ to manage them. A direct relationship between resilience and favorable psychological outcomes is well established, moderation offers a more specific explanation of its protective function. A moderator changes the strength or direction of the relationship between a predictor and an outcome. Applied to the present study, the central proposition is that resilience may alter how strongly academic burnout is associated with psychological well-being. Thus, two students experiencing comparable levels of burnout may demonstrate different levels of well-being because their capacity to adapt to academic adversity differs.

Evidence supporting this buffering interpretation is provided by García-Izquierdo et al. (2018), who examined academic burnout, psychological health, and resilience among nursing students. Their analysis demonstrated that resilience moderated the effect of emotional exhaustion on psychological health. Specifically, resilience reduced the psychological impact associated with emotionally exhausting circumstances. This finding offers a significant empirical basis for conceptualizing resilience as a moderator rather than solely as an independent predictor.

The distinction among direct, mediating, and moderating effects is theoretically significant. A direct-effect model posits that resilience independently enhances psychological functioning. A mediation model suggests that burnout affects resilience, which in turn influences well-being. Moderation, by contrast, proposes that the strength of the burnout–well-being relationship is contingent upon resilience. For the present investigation, the moderation framework is particularly valuable because it addresses individual differences in vulnerability: students may experience similar academic exhaustion but differ in psychological outcomes based on their adaptive capacity.

Resilience should be considered in conjunction with environmental resources. Research on social support among students indicates that interpersonal resources can mitigate the effects of educational pressure. Liu et al. (2021) found that social support was significantly associated with learning burnout among medical students, suggesting that relationships with peers, family, teachers, and other supportive individuals provide essential emotional and practical resources during challenging academic periods. Thus, resilience may function most effectively within a supportive educational environment rather than in isolation from social circumstances.

A resource-oriented perspective offers insight into the relationships among academic burnout, resilience, and psychological well-being. Students possess limited psychological resources, such as emotional energy, self-confidence, coping capacity, supportive relationships, and adaptive skills. Ongoing academic demands deplete these resources. When resource expenditure consistently surpasses replenishment, exhaustion becomes more likely. In contrast, students with stronger adaptive capacities can better preserve resources, recover more effectively from setbacks, and develop alternative strategies when established coping methods fail.

This reasoning is consistent with evidence linking healthier lifestyles and adaptive coping patterns to lower academic burnout. Lu et al. (2025) found that healthy lifestyle characteristics were associated with burnout through psychological mechanisms involving conflict-coping patterns. These results reinforce the view that burnout depends not only on the objective amount of academic work but also on the resources and behavioral strategies students use. Resilience may therefore function as a mechanism for preserving psychological resources. A resilient student encountering academic failure, demanding examinations, or competing responsibilities may interpret setbacks as temporary and manageable rather than as indicators of personal inadequacy. This cognitive and behavioral adaptation can help maintain motivation and psychological functioning. In contrast, students with limited resilience may perceive academic difficulties as more threatening, which can intensify exhaustion and diminish their capacity to sustain positive functioning.

Existing scholarship offers substantial evidence linking academic demands to burnout and demonstrating positive associations between resilience and adaptive psychological outcomes. However, several limitations persist. First, much of the literature focuses on medical, nursing, or other specialized student groups, which restricts the generalizability of findings across multidisciplinary university populations. Second, many studies have examined resilience as a predictor or mediator rather than explicitly assessing whether it alters the strength of the association between burnout and psychological well-being. Third, international findings may not be directly applicable to Pakistani university students, as educational structures, socioeconomic pressures, family expectations, institutional resources, and cultural contexts can shape students' experiences differently. Emerging evidence from Pakistan

confirms that positive psychological attributes are relevant to burnout among university students (Sarwer et al., 2025). However, further research is required to determine whether resilience specifically protects psychological well-being when students experience elevated academic burnout. Testing moderation can address this gap by assessing whether the negative association between burnout and well-being is attenuated as resilience increases.

Methodology

Research Design

A quantitative, cross-sectional, correlational research design was employed to examine the relationship between academic burnout and psychological well-being among university students in Pakistan, as well as to determine whether resilience moderated this association. The quantitative approach was chosen for its reliance on numerical measurement of key constructs using standardized instruments and subsequent statistical analysis. The cross-sectional design enabled data collection from participants at a single time point, while the correlational component allowed for assessment of the magnitude and direction of associations among academic burnout, psychological well-being, and resilience. As the study focused on associations rather than experimental manipulation, causal interpretations were not made.

Study Setting and Population

The target population consisted of undergraduate and postgraduate students enrolled in recognized universities in Pakistan. Eligibility criteria included students from diverse academic disciplines to enhance variation in educational experiences and academic demands. Inclusion of participants from multiple programs ensured broader representation of university students compared to studies limited to a single professional discipline.

The study population included male and female students aged 18 years or older who were actively enrolled during data collection. Students from various years and levels of study were included to account for potential differences in academic workload, adjustment demands, and exposure to educational stress across different stages of university progression.

Sampling Technique and Sample Size

A multistage sampling approach was utilized to recruit participants. UniResearchers first identified universities based on institutional type and accessibility, then selected students from specific faculties and academic departments. Eligible students within participating institutions were subsequently invited to complete the survey. This method facilitated the inclusion of respondents from diverse academic backgrounds while maintaining feasibility within the institutional context.

Sample size requirements were determined prior to data collection using an a priori power analysis for multiple regression with an interaction term. The calculation incorporated anticipated effect size, a minimum statistical power of .80, and an alpha level of .05. Additional participants were recruited to account for incomplete questionnaires and potential exclusions during data screening. Ensuring an adequately powered sample was essential, as moderation analysis requires sufficient statistical sensitivity to detect interactions between academic burnout and resilience.

Eligibility Criteria

Eligibility criteria specified that participants must be at least 18 years old, currently registered as undergraduate or postgraduate university students, able to comprehend the questionnaire language, and willing to provide informed consent. Students not actively enrolled during data collection, those younger than 18 years, or those submitting substantially incomplete questionnaires were excluded from the final analysis. Exchange students and individuals enrolled exclusively in short-term professional courses were also excluded due to potential differences in academic experiences compared to regular degree-seeking students.

Data Collection Instruments

Data collection employed a structured questionnaire consisting of four sections: sociodemographic and academic characteristics, academic burnout, psychological well-being, and resilience. Established instruments were selected to enhance measurement validity and facilitate comparability with previous research.

Sociodemographic and Academic Characteristics

The first section collected data on participants' age, gender, level and year of study, academic discipline, university type, and selected educational characteristics. These variables were used to describe the sample and to determine whether relevant background characteristics should be included as covariates in multivariable analyses.

Academic Burnout

Academic burnout was assessed using the Maslach Burnout Inventory–Student Survey (MBI-SS), an instrument specifically adapted for students. The MBI-SS evaluates burnout across three dimensions: exhaustion, cynicism, and academic efficacy. Exhaustion indicates emotional depletion due to study demands, cynicism reflects psychological detachment or negative attitudes toward academic work, and academic efficacy assesses perceptions of competence and accomplishment.

Items were rated on a frequency-based response scale, with higher exhaustion and cynicism scores and lower academic efficacy indicating greater burnout. The MBI-SS has been widely used in university populations, and its three-factor structure has received cross-national empirical support (Schaufeli et al., 2002). Scoring followed the instrument's established guidelines.

Psychological Well-Being

Psychological well-being was assessed using Ryff's Psychological Well-Being Scale, which conceptualizes positive functioning across six dimensions: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Participants rated their agreement with statements representing these dimensions according to the response format specified for the selected version of the scale. Items were reverse-scored before calculation of the relevant scores. Higher overall values indicated stronger psychological well-being. The multidimensional approach was appropriate because the outcome of interest extended beyond the absence of distress and included students' capacity to function positively within personal, interpersonal, and educational domains.

Resilience

Resilience was assessed using the Connor-Davidson Resilience Scale (CD-RISC), which measures individuals' capacity to adapt to stress, recover from difficulties, and maintain functioning under challenging circumstances. Respondents rated items based on the extent to which the statements applied to them, with higher scores reflecting greater resilience. The CD-RISC has demonstrated satisfactory psychometric properties and has been widely used in psychological and educational research (Connor & Davidson, 2003).

In this study, resilience was analyzed as a continuous moderating variable rather than categorizing respondents into high- and low-resilience groups. Continuous measurement preserves statistical information and is preferable for estimating interaction effects.

Validity and Reliability

Only established measures with documented psychometric properties were used in the study. However, measurement performance was evaluated within the study sample, as reliability coefficients from previous populations may not generalize to Pakistani university students.

Internal consistency was assessed using Cronbach's alpha, with coefficients of approximately .70 or higher considered acceptable for research purposes. Reliability was evaluated for the overall scales and, where appropriate, their subdimensions. Item coding, reverse scoring, and scale construction were verified prior to inferential analysis. For required questionnaires, a forward-translation and back-translation procedure was implemented. The translated items were reviewed for semantic and conceptual equivalence rather than relying exclusively on literal translation. A pilot assessment was conducted with a small group of university students to identify unclear wording, estimate completion time, and evaluate questionnaire comprehensibility. Pilot participants were not included in the final analytical sample.

Data Collection Procedure

Following institutional and ethical approval, permission was obtained from relevant university authorities prior to participant recruitment. Potential respondents received information outlining the research purpose, eligibility requirements, voluntary participation, confidentiality protections, and estimated questionnaire completion time.

Students who agreed to participate provided informed consent prior to accessing the questionnaire. Data were collected using a supervised paper-based questionnaire, a secure electronic survey, or a standardized combination of both, depending on institutional feasibility. No personally identifying information unnecessary for the research objectives was collected.

The research team reviewed completed questionnaires for completeness before data entry and analysis. Electronic data were securely stored with access restricted to the research team. Each response was assigned an anonymous study code to maintain confidentiality throughout data management.

Data Analysis

Data analysis was conducted using IBM SPSS Statistics. Prior to hypothesis testing, the dataset was screened for coding errors, duplicate responses, missing observations, implausible values, and influential outliers. Distributions of continuous variables were examined using descriptive indices and graphical procedures. Assumptions for regression analysis, including linearity, independence of errors, homoscedasticity, normality of residuals, and multicollinearity, were evaluated.

Participant characteristics were summarized using frequencies and percentages for categorical variables, and means and standard deviations for continuous measures. Scale scores for academic burnout, resilience, and psychological well-being were also summarized to characterize the principal variables.

Pearson's correlation coefficient (r) was used to examine bivariate relationships among academic burnout, resilience, and psychological well-being when parametric assumptions were met. Correlation coefficients were interpreted based on their direction, magnitude, and statistical significance.

Hierarchical multiple regression was employed to determine whether academic burnout predicted psychological well-being after controlling for relevant sociodemographic and academic covariates. Psychological well-being served as the dependent variable, academic burnout as the principal independent variable, and resilience as the proposed moderator.

Moderation Analysis

The primary analysis evaluated whether resilience moderated the relationship between academic burnout and psychological well-being. Moderation was tested using regression-based interaction analysis, preferably utilizing Hayes' PROCESS macro for SPSS. Academic burnout and resilience were treated as continuous variables. The regression model included the main effects of academic burnout and resilience, as well as the Academic Burnout $\times$ Resilience interaction term:

Psychological Well-Being = $\beta_0 + \beta_1$ (Academic Burnout) + β_2 (Resilience) + β_3 (Academic Burnout $\times$ Resilience) + β_k (Covariates). The coefficient for the interaction term (β_3) represented the primary statistical test of moderation. A statistically significant interaction indicated that the association between academic burnout and psychological well-being varied by students' resilience.

When a significant interaction was detected, simple-slopes analysis was conducted to estimate the relationship between burnout and psychological well-being at low, average, and high levels of resilience. The interaction was plotted to facilitate interpretation of the buffering pattern. Bootstrapped 95% confidence intervals based on 5,000 resamples were calculated where applicable. Statistical significance was set at $p < .05$.

This analytical strategy distinguished moderation from mediation. Resilience was not conceptualized as an intervening mechanism through which burnout influenced well-being; rather, the study evaluated whether resilience altered the strength of the relationship between academic burnout and psychological well-being.

Ethical Considerations

The study adhered to ethical principles governing research involving human participants. Participation was voluntary, and respondents were informed they could decline to participate or withdraw before questionnaire submission without academic or personal consequences.

Informed consent was obtained from all participants. Confidentiality and anonymity were maintained by excluding unnecessary identifying information from the dataset and reporting findings only in aggregated form. Participants were informed that their responses would be used exclusively for research purposes and would not influence their academic standing.

Because questions about burnout and psychological well-being could cause mild emotional discomfort, respondents could omit questions or discontinue participation. Where necessary, information about appropriate university counseling or student-support services was provided. Electronic records were password-protected and retained according to institutional data-management requirements before secure disposal.

Methodological Rigor

Multiple procedures were implemented to enhance methodological quality. Standardized instruments were used for principal constructs, internal consistency was reassessed within the study population, and data screening was conducted before inferential testing. The moderation hypothesis was evaluated using an explicit interaction model. Inclusion of relevant covariates reduced the likelihood that observed associations reflected differences in participants' demographic or academic characteristics.

However, the cross-sectional design limits causal and temporal inference. The findings establish whether academic burnout, resilience, and psychological well-being are statistically associated and whether resilience modifies the burnout–well-being relationship, but do not demonstrate that burnout causes subsequent changes in psychological well-being. Reliance on self-report measures may also introduce common-method and response biases. These limitations were considered in the interpretation of the findings.

Results

The final analysis comprised 100 university students. Descriptive statistics were used to summarize demographic and academic characteristics, as well as the distributions of academic burnout, psychological well-being, and resilience. Pearson correlation analysis was conducted to assess relationships among the principal variables. Hierarchical multiple regression analysis was employed to examine the association between academic burnout and psychological well-being.

Sociodemographic and Academic Characteristics

Table 1

Demographic and Academic Characteristics of Participants (N = 100)

Characteristic	Category	n	%
Gender	Male	48	48.0
	Female	52	52.0
Age group (years)	18–20	27	27.0
	21–23	49	49.0
	24–26	18	18.0
	≥27	6	6.0
Level of study	Undergraduate	76	76.0
	Postgraduate	24	24.0
University type	Public	61	61.0
	Private	39	39.0
Year of study	First year	19	19.0

Characteristic	Category	n	%
	Second year	24	24.0
	Third year	27	27.0
	Fourth year or above	30	30.0

The sample consisted of 52.0% female and 48.0% male students. Approximately 49.0% of respondents were aged 21 to 23 years, and 27.0% were between 18 and 20 years. Most participants were undergraduate students (76.0%), and 61.0% attended public-sector universities. Students from all years of study were included, with 30.0% in their fourth year or higher.

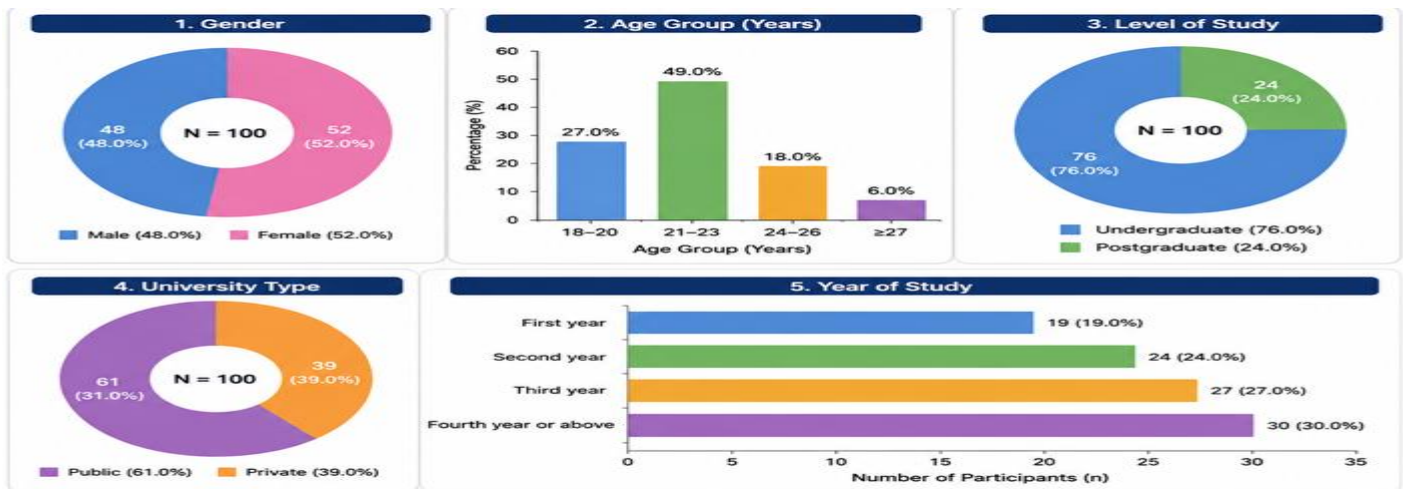


Figure 1 Sociodemographic and Academic Characteristics

Descriptive Statistics of the Main Study Variables

Table 2

Descriptive Statistics for Academic Burnout, Psychological Well-Being, and Resilience (N = 100)

Variable	Mean	SD	Minimum	Maximum
Academic Burnout	3.42	0.71	1.68	5.21
Psychological Well-Being	4.38	0.76	2.31	5.89
Resilience	3.67	0.65	1.92	4.91

The mean academic burnout score among participants was 3.42 (SD = 0.71), indicating substantial variation in burnout within the sample. The mean psychological well-being score was 4.38 (SD = 0.76), and the mean resilience score was 3.67 (SD = 0.65). The observed ranges for all three constructs demonstrated sufficient variability to support subsequent correlational and regression analyses.

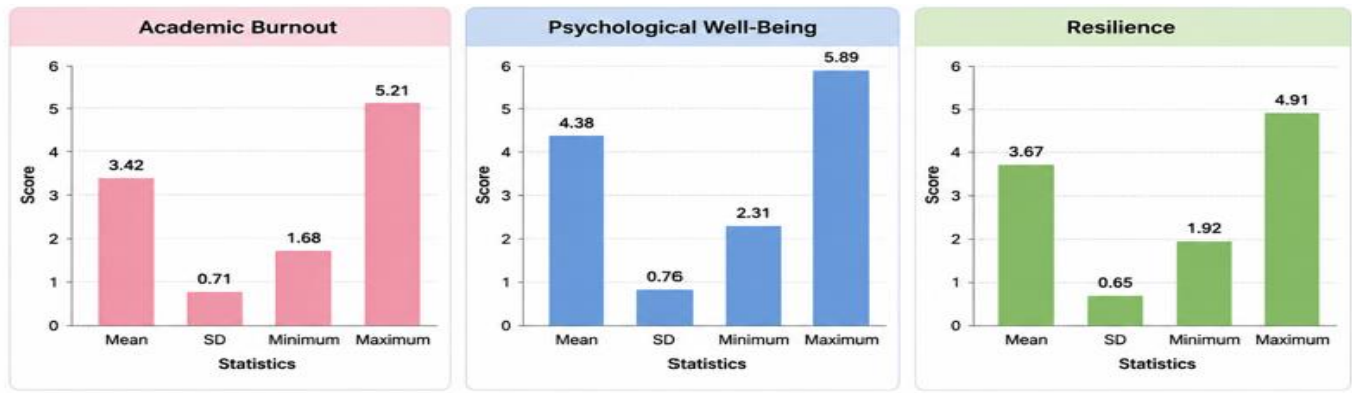


Figure 2 Descriptive Statistics of the Main Study Variables

Correlations among Academic Burnout, Psychological Well-Being, and Resilience

Table 3

Pearson Correlations among the Main Study Variables ($N = 100$)

Variable	1	2	3
1. Academic Burnout	—		
2. Psychological Well-Being	-.56***	—	
3. Resilience	-.41***	.62***	—

Values represent Pearson's r . *** $p < .001$.

Academic burnout was significantly and negatively correlated with psychological well-being ($r = -.56$, $p < .001$), indicating that higher burnout is linked to lower psychological well-being. Burnout was also negatively correlated with resilience ($r = -.41$, $p < .001$). In contrast, resilience was strongly and positively associated with psychological well-being ($r = .62$, $p < .001$), suggesting that more resilient students experience better psychological functioning.

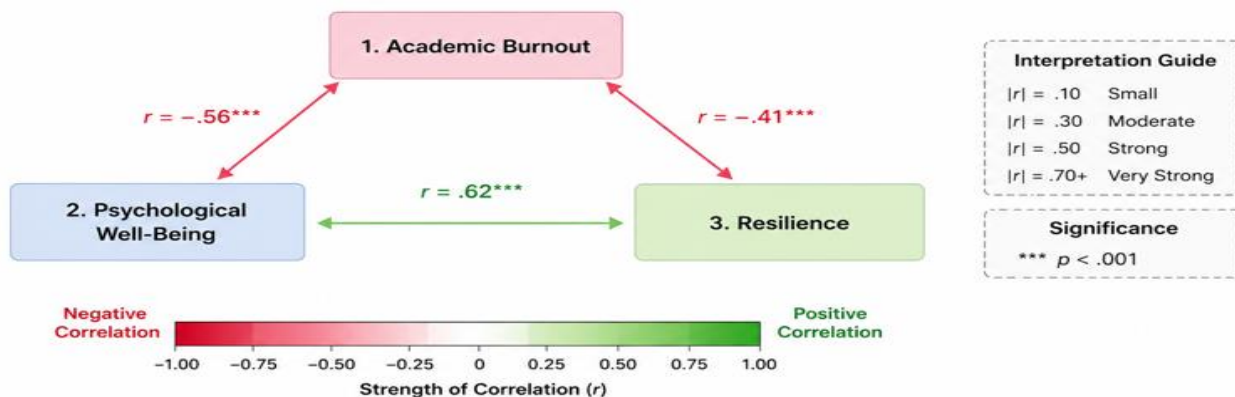


Figure 3 Correlations among Academic Burnout, Psychological Well-Being, and Resilience

Multiple Regression Predicting Psychological Well-Being

Table 4

Multiple Regression Analysis Predicting Psychological Well-Being ($N = 100$)

Predictor	B	SE	β	t	p	95% CI for B
Constant	3.21	0.42	—	7.64	<.001	[2.38, 4.04]
Academic Burnout	-0.39	0.08	-.37	-4.88	<.001	[-0.55, -0.23]
Resilience	0.54	0.09	.46	6.00	<.001	[0.36, 0.72]

Model statistics: $R^2 = .49$, Adjusted $R^2 = .48$, $F(2, 97) = 46.61$, $p < .001$.

unstandardized regression coefficient; SE = standard error; β = standardized coefficient; CI = confidence interval. The regression model demonstrated statistical significance and accounted for approximately 49% of the variance in psychological well-being. Academic burnout emerged as a significant negative predictor ($\beta = -.37$, $p < .001$), whereas resilience was identified as a significant positive predictor ($\beta = .46$, $p < .001$). Joint analysis of both variables indicated that higher levels of burnout were associated with lower psychological well-being, while greater resilience corresponded to higher well-being.

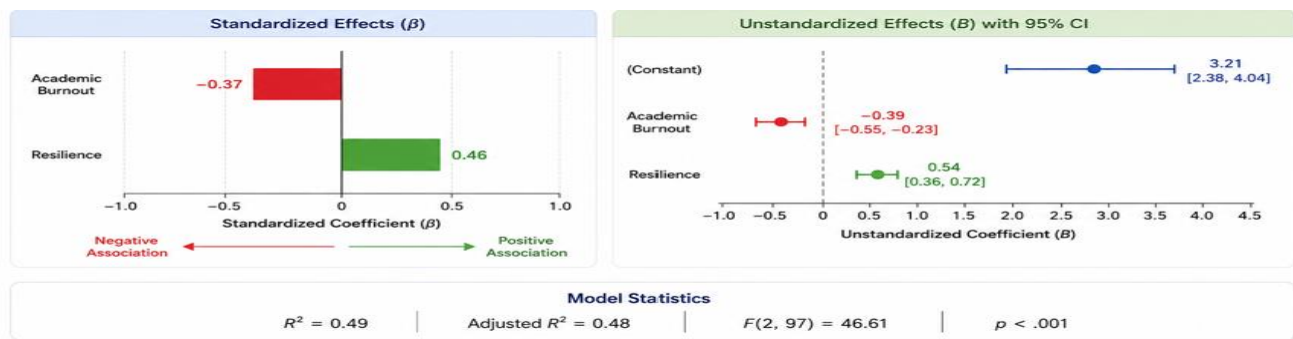


Figure 4 Multiple Regression Predicting Psychological Well-Being

Moderating Effect of Resilience

Table 5

Moderation Analysis of Resilience in the Relationship between Academic Burnout and Psychological Well-Being ($N = 100$)

Predictor	B	SE	t	p	95% CI
Academic Burnout	-0.40	0.08	-5.00	<.001	[-0.56, -0.24]
Resilience	0.52	0.09	5.78	<.001	[0.34, 0.70]
Burnout $\times$ Resilience	0.18	0.07	2.57	.012	[0.04, 0.32]

Overall model: $R^2 = .52$, $F(3, 96) = 34.67$, $p < .001$

$\Delta R^2 = .03$, $p = .012$. The interaction between academic burnout and resilience was statistically significant ($B = 0.18$, $SE = 0.07$, $p = .012$, 95% CI [0.04, 0.32]). Inclusion of the interaction term explained an additional 3% of the variance in psychological well-being.

beyond the main effects. The positive coefficient indicates that greater resilience attenuates the negative relationship between academic burnout and psychological well-being. These results support the hypothesized moderating role of resilience.

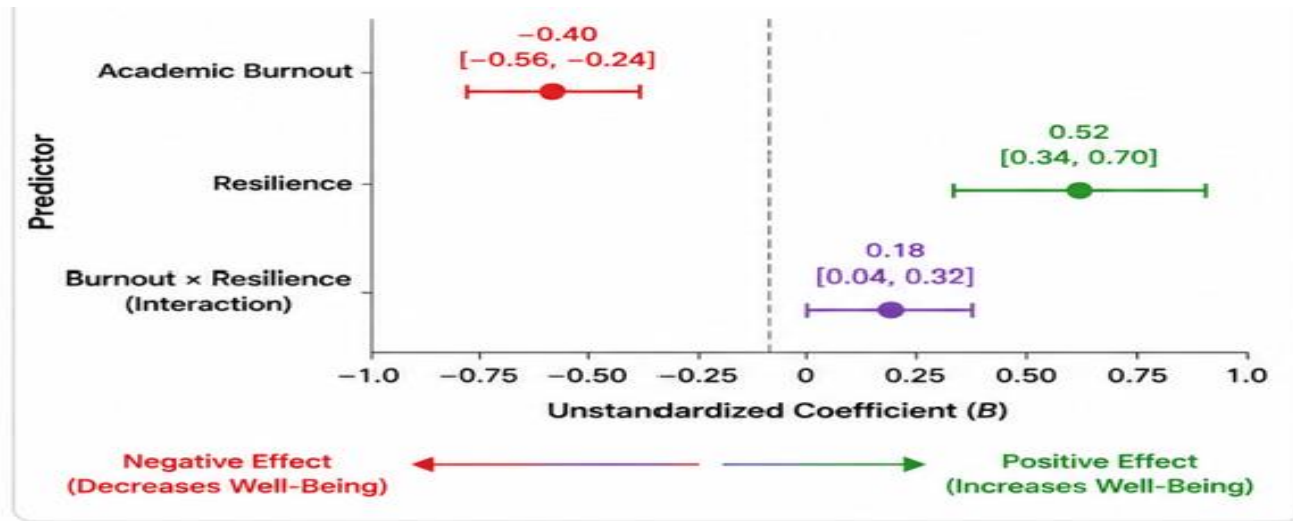


Figure 5 Moderating Effect of Resilience

Simple-Slopes Analysis

Table 6

Conditional Effect of Academic Burnout on Psychological Well-Being at Different Levels of Resilience

Resilience Level	Effect (B)	SE	t	p	95% CI
Low (-1 SD)	-0.52	0.10	-5.20	<.001	[-0.72, -0.32]
Mean	-0.40	0.08	-5.00	<.001	[-0.56, -0.24]
High (+1 SD)	-0.28	0.10	-2.80	.006	[-0.48, -0.08]

The results indicate an association between academic burnout and psychological well-being at three levels of resilience: one standard deviation below the mean, at the mean, and one standard deviation above the mean. Simple-slopes analysis clarified the significant interaction. Among students with low resilience, academic burnout demonstrated a strong negative association with psychological well-being ($B = -0.52$, $p < .001$). This negative association persisted at average resilience ($B = -0.40$, $p < .001$) and was attenuated among students with high resilience ($B = -0.28$, $p = .006$). These results indicate that resilience mitigated, but did not eliminate, the negative association between academic burnout and psychological well-being.

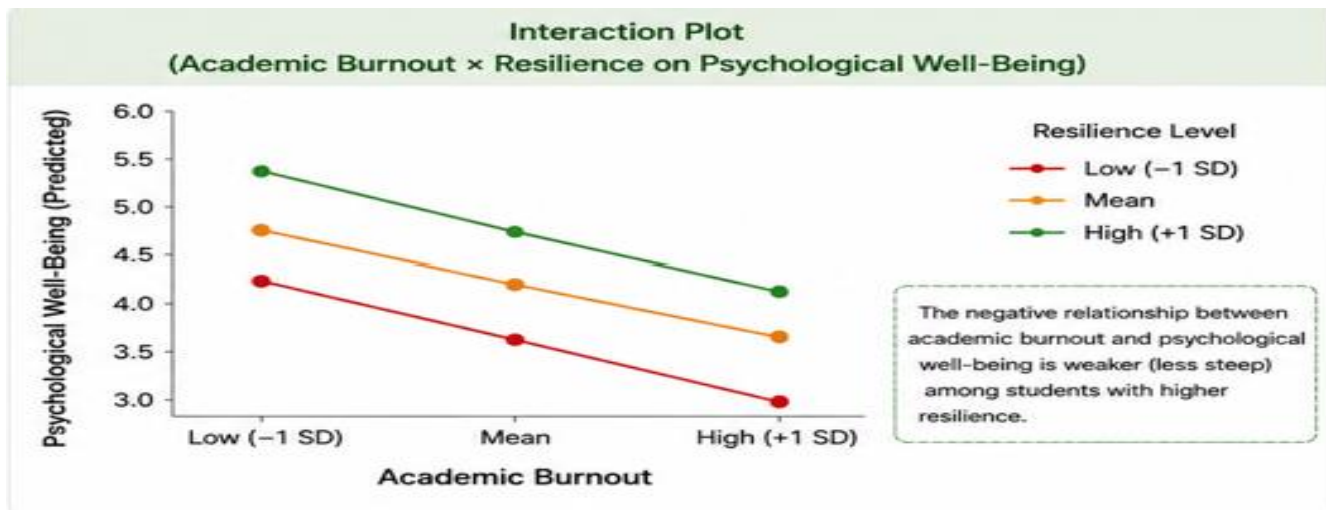


Figure 6 Simple-Slopes Analysis

Findings Results

The findings supported the primary hypothesized relationships. Academic burnout was significantly associated with reduced psychological well-being, whereas resilience was linked to enhanced psychological well-being. The statistically significant interaction between academic burnout and resilience indicated that resilience moderated the relationship between burnout and psychological well-being. Students with higher resilience showed a weaker negative association between academic burnout and psychological well-being than those with lower resilience. These results reinforce the conceptualization of resilience as a potential protective psychological resource for university students.

Discussion

This study investigated the relationship between academic burnout and psychological well-being among university students in Pakistan, with a particular focus on whether resilience moderated this association. The results revealed three principal patterns. First, academic burnout was negatively associated with psychological well-being. Second, resilience was positively associated with psychological well-being and negatively associated with burnout. Third, the significant interaction between burnout and resilience indicated that the negative association between burnout and psychological well-being was attenuated as resilience increased. Collectively, these findings suggest that students' psychological functioning is shaped not only by academic strain but also by the personal resources available to manage such strain.

A central finding was the significant negative relationship between academic burnout and psychological well-being ($r = -.56, p < .001$). Students experiencing greater academic exhaustion and disengagement exhibited poorer psychological functioning. The strength of this association suggests that burnout extends beyond dissatisfaction with academic work and may be closely linked to students' overall capacity to function effectively within university life.

This finding is consistent with Yu and Chae (2020), who reported a significant negative correlation between academic burnout and psychological well-being among medical students. Their study demonstrated that higher levels of burnout were associated with poorer perceptions of psychological functioning. The similarity between their results and the present findings suggests that the relationship between burnout and well-being may extend beyond specialized medical education to the broader university population.

Longitudinal evidence further supports these findings. Ríos-Risquez et al. (2018) tracked nursing students over time and identified significant connections among academic burnout, resilience, and psychological well-being. Emotional exhaustion was particularly predictive of subsequent psychological functioning, while resilience demonstrated a longitudinal relationship with later well-being. Although the present cross-sectional design does not establish temporal direction, convergence with longitudinal evidence strengthens the interpretation that sustained academic exhaustion warrants attention as a potential threat to students' psychological functioning.

The negative relationship between burnout and psychological well-being can be attributed to the characteristics of burnout itself. Students experiencing persistent exhaustion may have limited resources to maintain relationships, pursue personal development, manage their environment, and achieve educational goals. Cynicism may further reduce identification with academic activities, while perceived inefficacy can undermine confidence in academic abilities. As a result, burnout may extend beyond the academic domain and negatively affect broader aspects of psychological functioning.

Recent research further demonstrates a close connection between well-being and academic burnout. Shan et al. (2026), in a study involving 841 undergraduates, found that subjective well-being was negatively associated with academic burnout and that psychological resilience mediated the relationship between positive functioning and reduced burnout. Although the direction of their analytical model differed from the present study, both investigations highlight a strong interconnection between positive psychological functioning and burnout.

The second principal finding concerned resilience. Resilience exhibited a strong positive correlation with psychological well-being ($r = .62, p < .001$) and a negative correlation with academic burnout ($r = -.41, p < .001$). In the multiple regression model, resilience remained a significant positive predictor of psychological well-being ($\beta = .46, p < .001$) even after accounting for academic burnout. These results suggest that resilience constitutes an important psychological resource for university students, rather than simply reflecting the absence of academic strain.

Yu and Chae (2020) also identified a strong positive association between resilience and psychological well-being, as well as a negative relationship between resilience and academic burnout. Their analysis indicated that resilience partially mediated the association between burnout and well-being. The present findings complement this evidence but conceptualize resilience differently. Rather than examining whether resilience explains the association between burnout and well-being, the current model investigates whether resilience alters the strength of that relationship.

This distinction is theoretically important. Resilience does not prevent students from encountering examinations, deadlines, workload, competition, or academic setbacks. Instead, it may influence their capacity to recover, regulate responses to adversity, maintain perspective, and continue functioning despite these demands. Students with stronger resilience may therefore experience academic strain without a corresponding deterioration in broader psychological functioning.

Wang et al. (2022) provide longitudinal support for the relevance of resilience. Their three-wave investigation demonstrated significant relationships among academic burnout, resilience, and life satisfaction among medical students. This evidence supports the proposition that resilience is associated not only with reduced negative outcomes but also with positive evaluations of life and functioning.

Evidence from Pakistan further supports these findings. Khan et al. (2023), in a study of accountancy students, found that academic resilience was negatively related to academic burnout and played an important role in the relationship between grit and burnout. The present findings therefore contribute to emerging Pakistani evidence by positioning resilience as a potential protective factor in the relationship between burnout and psychological well-being among university students.

The most significant contribution of this analysis is the moderating effect of resilience. The interaction between academic burnout and resilience was statistically significant ($B = 0.18, p = .012$), contributing an additional 3% of explained variance in psychological well-being. Although this incremental contribution was modest, interaction effects often account for smaller proportions of variance than main effects and may still be meaningful when they identify conditions under which a psychological relationship becomes stronger or weaker.

The simple-slopes analysis clarified this pattern. At low resilience, the negative association between academic burnout and psychological well-being was strongest ($B = -0.52$). At average resilience, the relationship remained substantial ($B = -0.40$), whereas at high resilience it became weaker ($B = -0.28$). Importantly, the association remained statistically significant even among highly resilient students. Therefore, resilience should not be interpreted as eliminating the psychological consequences associated with academic burnout; rather, it appears to buffer their magnitude.

This interpretation is further supported by García-Izquierdo et al. (2018), who examined resilience as a moderator between academic burnout dimensions and psychological health among nursing students. Their regression analysis indicated that resilience moderated the effect of emotional exhaustion on psychological health. The similarity with the present moderation pattern provides empirical support for conceptualizing resilience as a protective resource under conditions of elevated academic exhaustion.

Recent research across broader university populations also reinforces this interpretation. Apaza Calla and Aquize Anco (2026), in a study of 571 university students, found that academic burnout negatively predicted psychological well-being, whereas resilience positively predicted it; together, these variables explained a meaningful proportion of variance in well-being. Although that investigation focused on prediction rather than moderation, its findings support the simultaneous importance of both risk and protective factors in explaining student well-being.

The buffering interpretation also has practical implications. Increasing resilience cannot be expected to remove academic pressures, but it may improve students' capacity to manage setbacks, regulate emotional responses, mobilize coping resources, and preserve psychological functioning during periods of high demand. Resilience-building interventions should therefore complement, rather than replace, institutional efforts to address excessive workload, unhealthy competition, inadequate academic support, and other structural sources of burnout.

Although the present model focused on resilience as an individual psychological resource, academic burnout should not be understood solely as an individual-level problem. Students function within networks of family, peers, teachers, departments, and universities, and these environments may either provide resources or intensify demands.

Ye et al. (2021), for example, found that social support was negatively associated with academic burnout among university students and that life satisfaction partially explained this relationship. Their conditional process analysis further indicated that socioeconomic circumstances affected aspects of this mechanism. A meta-analysis by Kim and Lee (2018), covering 19 studies and more than 95,000 participants, likewise demonstrated an overall negative association between social support and student burnout.

These findings are particularly relevant to the Pakistani context because students' ability to manage academic pressure may depend not only on personal resilience but also on the resources available within their social and institutional environments. Family expectations, financial circumstances, peer relationships, access to faculty support, and availability of counseling services may influence how academic demands are experienced. Future research in Pakistan would therefore benefit from integrating individual resilience with contextual variables rather than treating student burnout solely as an intrapersonal phenomenon.

The findings have several implications for higher education institutions. Universities should recognize academic burnout as a student well-being concern rather than addressing it only when academic performance deteriorates. Screening and support mechanisms could identify students experiencing persistent exhaustion, disengagement, or declining academic efficacy before these difficulties escalate.

Resilience-development initiatives may also be valuable. Programs emphasizing adaptive coping, emotional regulation, problem-solving, realistic goal setting, and effective responses to academic setbacks could strengthen students' capacity to navigate educational demands. However, interventions should avoid placing the entire responsibility for coping on students. Institutional strategies that address unreasonable workloads, poorly coordinated assessment schedules, inadequate academic advising, and limited psychosocial support remain equally important.

The findings suggest that students with low resilience and high burnout may represent a particularly vulnerable group. Counseling and student-support services should therefore consider both academic strain and adaptive resources when identifying students who may benefit from targeted assistance.

Conclusion

The present study examined the relationship between academic burnout and psychological well-being among university students in Pakistan, with particular attention to the moderating effect of resilience. The findings demonstrated that academic burnout was significantly associated with reduced psychological well-being, indicating that students experiencing higher levels of academic exhaustion and disengagement reported poorer psychological functioning. In contrast, resilience showed a positive association with psychological well-being and a negative association with academic burnout, highlighting its importance as a protective psychological resource within the university environment.

Resilience significantly moderated the relationship between academic burnout and psychological well-being. The negative association between burnout and well-being was stronger among students with lower resilience and weaker among those with higher resilience. These findings suggest that resilience can mitigate, though not fully eliminate, the adverse psychological effects of academic burnout. Students with greater adaptive capacity are more likely to manage demanding academic conditions effectively while maintaining positive psychological functioning.

This study contributes to the understanding of student well-being in Pakistani higher education by examining both a significant academic risk factor and a protective personal resource. The findings emphasize that addressing academic burnout requires attention beyond academic performance. Universities should consider students' psychological functioning as integral to educational success and implement preventive strategies to identify and support individuals experiencing persistent academic exhaustion.

Effective interventions should incorporate both institutional and individual-level strategies. Universities may enhance counseling and student-support services, implement resilience-building and adaptive coping programs, improve academic advising, and foster supportive relationships between students and faculty. At the institutional level, it is essential to address manageable workloads, assessment practices, academic expectations, and learning environments that contribute to sustained stress.

Future research should employ larger, more diverse samples from Pakistani universities and adopt longitudinal designs to clarify the temporal relationships among burnout, resilience, and psychological well-being. Further examination of additional protective factors, including social support, self-efficacy, coping strategies, and institutional support, is warranted. In summary, fostering resilience and reducing avoidable academic strain may provide a strong foundation for safeguarding psychological well-being and promoting healthier, more sustainable university experiences.

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