

BURNOUT, WORK ENGAGEMENT, AND PERCEIVED ACADEMIC PERFORMANCE: AN ORGANIZATIONAL BEHAVIOR CASE STUDY IN A PUBLIC-SECTOR UNIVERSITY OF PAKISTAN

Maqsood Haider^{*1}, Anwar Khan²

^{*1}Department of Management Sciences, FATA University

²Department of Management Sciences, Khushal Khan Khattak University

^{*1}dr.haider@fu.edu.pk, ²akpashtoon1981@gmail.com

Corresponding Author: *

Maqsood Haider

DOI: <https://doi.org/10.5281/zenodo.18657299>

Received	Accepted	Published
04 October 2025	14 November 2025	30 November 2025

ABSTRACT

This study examined the relationships among burnout, work engagement, and perceived academic performance among university students in a public-sector institution located in southern Khyber Pakhtunkhwa, Pakistan. Guided by the Job Demands–Resources and Study Demands–Resources frameworks, the study conceptualized burnout as a psychological demand-related outcome, work engagement as a key motivational resource, and academic performance as an organizationally relevant student outcome. Using a cross-sectional population-based case study design, data were collected from 974 students, of whom 786 provided fully complete questionnaires. Burnout was assessed using the Copenhagen Burnout Inventory, engagement using the Utrecht Work Engagement Scale–Student Version, and academic performance using a perceived academic achievement rating scale. Descriptive analyses indicated moderate burnout levels and relatively high engagement among respondents, with all measures demonstrating strong internal reliability. Correlation analyses showed that burnout was negatively associated with both work engagement and academic performance, while work engagement was positively associated with academic performance. Regression analyses further confirmed these relationships, with burnout significantly predicting lower engagement ($\beta = -0.54$) and poorer academic performance ($\beta = -0.33$), and engagement significantly predicting higher academic performance ($\beta = 0.44$). Mediation testing using PROCESS Model 4 revealed a significant indirect effect, indicating that work engagement partially mediated the relationship between burnout and academic performance. These findings highlight the central role of engagement in shaping students' academic functioning and underscore burnout as a critical risk factor within resource-constrained public-sector universities. The study provides evidence-based direction for designing psychological and organizational interventions to enhance student well-being and academic success in higher education contexts in Pakistan.

Keywords: Burnout; Work Engagement; Academic Performance; Organizational Behavior; Public-Sector University; Pakistan; Student Well-being; Mediation Analysis

INTRODUCTION

University students are increasingly being conceptualized as members of complex organizational systems rather than passive

recipients of education, making their psychological functioning directly relevant to organizational behavior frameworks in higher

education (Bess, Johnstone, & Dee, 2023). In low- and middle-income contexts such as Pakistan, public-sector universities operate under chronic resource constraints, large class sizes, and unstable socio-political conditions, which may intensify academic stress and psychosocial risk for students (Khan, Anwar, & Jan, 2021). Recent research work on the public sector universities of the Khyber Pakhtunkhwa has documented high levels of psychological stress, academic strain, and related risk factors among undergraduate students across public universities in the province (Amir, Saad, Khan, & Umair, 2025; Ihsan, Khan, Ullah, Khan, & Khan, 2025). These research findings underlined the vulnerability of student population in the region.

In this context, student burnout has emerged as a key construct for understanding this erosion of academic functioning. Burnout, originally conceptualized in occupational settings, is commonly defined as a state of emotional exhaustion, cynicism, and reduced efficacy resulting from chronic demands and insufficient resources (Schaufeli, Maslach, & Marek, 2017). In this regard, the Copenhagen Burnout Inventory provides a robust framework to assess personal, work-related, and client-related burnout (Kristensen, Borritz, Villadsen, & Christensen, 2005). This concept can be successfully adapted to academic contexts, including samples of Pakistani students. Furthermore, recent empirical work shows that academic burnout is associated not only with poorer academic progress, but also with heightened risks of anxiety, depression, and broader functional impairment among university students (Madigan & Curran, 2024). In Pakistan, recent research studies have reported burnout with factors such as curriculum structure, psychological stressors, perfectionism, and resilience (Rehman, Addas, Rahman, Shahiman, & Li, 2024).

It means that burnout not only affects the academic performance of the students but also weakens their engagement level in studies. Evidence from recent research work, it was found that engaged students tend to show better grades, more adaptive study strategies, and lower dropout intentions, whereas those who are disengaged are more likely to underperform academically and

experience psychological distress (Adeshola & Agoyi, 2023). In this way, the dynamic relationship between burnout, engagement, and academic performance can be theoretically framed within the Job Demands–Resources model (Bakker & Demerouti, 2007) and its application can be extended to the higher education sector of Pakistan. Empirical studies in university settings support a negative association between burnout and academic performance and a positive association between engagement and academic performance (Salanova, Schaufeli, Martínez, & Bresó, 2010; Palos, Maricuțoiu, & Costea, 2019), however the mechanisms underlying these relationships remain underexplored, particularly in South Asian public-sector contexts. Moreover, in Pakistan, research on student mental health has predominantly focused on the prevalence of stress, depression, and anxiety, and on broad predictors of academic stress and performance. While a few studies have examined academic burnout or related constructs among Pakistani students. More importantly, the rural universities in Khyber Pakhtunkhwa have never been researched.

Against this backdrop, the present study investigates the relationships between burnout, work engagement, and perceived academic performance among students enrolled in a public-sector university in southern Khyber Pakhtunkhwa, Pakistan. Drawing on the JD–R and SD–R frameworks, we conceptualize burnout as a key psychological demand-related outcome, work engagement as a central motivational resource, and academic performance as an organizationally relevant outcome of students' role functioning. By testing work engagement as a mediator between burnout and perceived academic performance in this under-studied regional context, the study aims to contribute to both the international literature on student well-being and engagement and the local evidence base needed for designing psychologically informed interventions in Pakistani public-sector universities.

Hypotheses of Study

Grounded in the Job Demands–Resources (JD–R) and Study Demands–Resources (SD–R)

frameworks, the following hypotheses were proposed:

- i. Burnout is negatively associated with work engagement among university students.
- ii. Burnout is negatively associated with perceived academic performance.
- iii. Work engagement is positively associated with perceived academic performance.
- iv. Work engagement will mediate the relationship between burnout and perceived academic performance.

Research Methods

Research Design

This study employed a cross-sectional, case-based, population study design (Maier, Thatcher, Grover, & Dwivedi, 2023). This study focused on students enrolled at a single public-sector university located in southern Khyber Pakhtunkhwa, Pakistan. (Note: the name of university has not been explicitly mentioned due to legal restrictions). Cross-sectional designs are commonly used in organizational behavior and educational psychology research to evaluate psychological constructs and their interrelations within specific institutional contexts (Spector & Meier, 2014).

Population

The total student population of the selected university at the time of this study was 1,407 students across fifteen academic departments. Because the study was designed as both a case study (single-institution focus) and a population-based study, all enrolled students were considered eligible for participation.

Data Collection

Data were collected using a self-reported questionnaire, which was designed by combining three psychometrically established instruments:

- i. Copenhagen Burnout Inventory (Kristensen et al., 2005).
- ii. Utrecht Work Engagement Scale - Student Version (Schaufeli & Bakker, 2003).

- iii. Self-rated Academic Achievement Scale (Křeménková & Novotný, 2020).

Data was collected by distributing hard copies of the questionnaire to students through their respective departments via designated teachers. The teachers distributed the questionnaires, collected them once students had completed them, and then returned them to the researcher for this study.

Data Analysis

Data was analyzed through following techniques:

- i. Descriptive statistics for dealing with descriptive demographic and other prevalence data.
- ii. Inferential statistics were conducted in a sequence to test the proposed mediation model. First, Pearson correlations examined bivariate relationships among burnout, work engagement, and academic performance. Simple regression analyses tested direct effects. Then, a simple mediation analysis was performed using Hayes PROCESS Macro (Hayes, 2018) to test the indirect pathway, whereby burnout reduces work engagement, which in turn reduces academic performance. Mediation was deemed present if the indirect effect (ab path) was statistically significant (indicated by a bootstrap confidence interval excluding zero), and if the paths from burnout to engagement (a) and from engagement to performance (b) were significant. The direct effect (c' path) was interpreted to determine if mediation was partial (significant direct effect remains) or full (direct effect becomes non-significant) (Hayes, 2009).

Results of Study

Missing Data Analysis

A total of 1,407 students were enrolled in the selected public-sector university at the time of data collection. Out of these, 974 students voluntarily completed the questionnaire (response rate = 69.2%). After screening for incomplete surveys, 786 questionnaires were retained for final analysis, yielding a valid response rate of 55.8%.

Table 1. Missing Data Summary

Category	Frequency (n)	Percentages (%)
Total enrolled students	1,407	100%
Returned questionnaires	974	69.2%
Complete questionnaires	786	55.8%
Incomplete questionnaires	188	13.3%
Non-responders	433	30.8%

Missing data were analyzed using Little's MCAR test, which indicated that data were missing completely at random, $\chi^2(42) = 49.21$, $p = .20$, allowing listwise deletion for inferential analysis.

Descriptive Statistics and Reliability Analysis

Descriptive statistics were calculated for the three major constructs: Burnout, Work Engagement, and Perceived Academic Performance.

Table 2. Descriptive Statistics and Reliability Coefficients (N = 786)

Variable	Mean	sd	Min	Max	Cronbach's α
Burnout	48.33	12.74	18	83	0.89
Work Engagement	3.723	0.88	1.20	6.00	0.72
Academic Performance	3.144	0.71	1.00	5.00	0.84

Correlation Analysis

Pearson correlation coefficients were computed among the study variables.

Table 3. Correlation Matrix

Variables of Study	1	2	3
Burnout	—		
Work Engagement	-0.54*	—	
Academic Performance	-0.33*	0.47*	—

Note. $p = 0.001$ for all significant results.

Regression Analysis

Table 4 shows that Burnout significantly predicted lower work engagement ($\beta = -0.54$, $p < .001$). This indicates that students with higher burnout levels experience substantial reductions in vigor, dedication, and absorption. This strong negative effect supports the first hypothesis. Furthermore, work engagement significantly predicted higher academic performance ($\beta = 0.44$, $p < .001$). Students who reported greater engagement were more likely to perceive themselves as achieving stronger academic outcomes. This confirms the third hypothesis and aligns with the motivational pathway of the JD-R framework. Similarly, burnout showed a significant negative total effect

on academic performance ($\beta = -0.33$, $p < .001$). This means that burnout deteriorates students' academic functioning even before accounting for the role of engagement. Hypothesis 2 is therefore supported. Finally, when work engagement was added to the model, the direct effect of burnout on academic performance dropped substantially from $\beta = -0.33$ (total effect) to $\beta = -0.09$ but remained statistically significant ($p = .039$). This pattern indicates partial mediation, whereby a significant portion of burnout's impact on academic performance operates indirectly through its negative effect on work engagement. In this way all four hypotheses have been successfully accepted.

Table 4. Results of Regression Analysis

Regression Paths	B	SE	β	t	p
Path-A	-0.037	0.002	-0.54	-18.92	0.000
Path-B	0.352	0.027	0.44	13.17	0.005
Path-C	-0.018	0.002	-0.33	-10.22	0.000
Path-C'	-0.005	0.002	-0.09	-2.07	0.034

Discussion

The present study examined the interrelationships among burnout, work engagement, and perceived academic performance among students enrolled in a public-sector university in southern Khyber Pakhtunkhwa, Pakistan. Using an organizational behavior lens and drawing upon the Job Demands-Resources and Study Demands-Resources models, the findings provide compelling evidence that psychological demands such as burnout significantly shape students' motivational processes and academic functioning. Consistent with Hypothesis 1 and 2, burnout was found to have a strong negative association with work engagement. This aligns with international research showing that emotional exhaustion and chronic academic demands reduce students' energy, motivation, and commitment to learning (Taris & Schaufeli, 2004). Burnout appears to drain the psychological resources that students need to remain vigorous, dedicated, and fully absorbed in their activities. Within the context of southern Khyber Pakhtunkhwa, where public-sector institutions frequently face overcrowded classrooms, limited academic resources, and socio-economic pressures (Khan, Wadood, & Muhammad, 2024). These effects may be further amplified. Many students in this region juggle academic demands with financial strain, long travel distances, and unstable learning environments—conditions that likely intensify burnout levels.

In line with Hypothesis 3 and 4, the study found that work engagement significantly predicted higher perceived academic performance. This supports the motivational pathway of the JD-R and SD-R models, which posit that adequate resources—both internal and external—activate engagement, leading to improved performance and persistence in academic tasks (Lesener, Gusy, Jochmann, & Wolter, 2020). Engaged students in

the present sample demonstrated stronger perceptions of academic progress, possibly reflecting better study strategies, greater classroom participation, and enhanced emotional investment in learning. These findings highlight engagement as a central psychological asset in the academic ecosystem, especially in environments where external resources are scarce. This interpretation aligns with recent international evidence showing that engagement acts as a psychological bridge between stress and performance outcomes (Chong, Foo, & Chua, 2025). In the context of public-sector universities in southern Khyber Pakhtunkhwa, where academic adversity is a lived reality for many students, strengthening engagement may represent one of the most effective intervention pathways for mitigating the harmful effects of burnout.

Collectively, these findings reinforce the view that students in higher education should be conceptualized not simply as learners, but as organizational actors embedded within complex institutional systems. The psychological demands placed upon them—combined with institutional resources or lack thereof—shape their engagement, well-being, and academic functioning in predictable ways. The public-sector university environment examined in this case study is representative of many universities across Pakistan, particularly in under-resourced regions, making the implications of this research both timely and nationally relevant.

Implications of Study

The results also offer practical significance. Universities in southern Khyber Pakhtunkhwa and Pakistan more broadly can benefit from integrating low-cost psychological resource-building interventions aimed at reducing burnout, fostering engagement, and supporting academic

health. Evidence-based strategies may include structured orientation programs, time-management and self-regulation workshops, academic counseling, peer-mentoring systems, and teacher-led engagement enhancement activities. Institutional-level resources such as improved communication, workload clarity, teacher support, and flexible learning arrangements may further buffer burnout's effects. Since engagement emerged as a partial mediator, interventions directly targeting engagement may yield substantial gains even if broader structural challenges remain unaddressed.

Overall, the findings contribute to the growing body of literature linking burnout, engagement, and academic success in higher education, while offering novel evidence from a socio-economically constrained Pakistani public university context that is rarely represented in global OB-psych research. The study underscores the necessity of designing context-sensitive psychological interventions and organizational reforms that foster student well-being and academic excellence, particularly in underserved regions.

Limitations and Future Research Directions

- i. First, the study employed a cross-sectional design, which restricts the ability to infer causal relationships among burnout, engagement, and academic performance. Future studies should consider longitudinal or multi-wave designs to test causal pathways and developmental trajectories of burnout and engagement over time.
- ii. Second, data were collected from a single public-sector university, which limits the generalizability of the findings to other institutional contexts. Future research should include multi-site samples, involving public and private institutions across various regions of Pakistan, to enhance external validity and allow for cross-institutional comparisons.
- iii. Third, the study relied entirely on self-reported measures, which may be subject to response biases such as social desirability, common method variance, and subjective misjudgment of academic performance. Future studies could incorporate objective indicators such as GPA, attendance records, or teacher evaluations. Multi-informant data (e.g., faculty ratings, peer assessments) may

further reduce bias and enrich the interpretation of academic outcomes.

- iv. Finally, cultural factors specific to southern Khyber Pakhtunkhwa such as socio-economic stress, first-generation university attendance, family responsibilities, and rural-urban disparities may influence students' psychological functioning in ways not fully captured by the present study. Future research should employ mixed-method or qualitative approaches to explore these cultural and contextual nuances.

Conclusion

This study sheds light on a deeply relevant yet often overlooked reality within Pakistan's higher education landscape: students are not just passive learners but psychological actors navigating demanding, resource-constrained academic environments. By examining burnout, work engagement, and academic performance within a public-sector university in southern Khyber Pakhtunkhwa, the study demonstrates that psychological strain has tangible academic consequences and that engagement plays a pivotal role in shaping these outcomes.

In a region where higher education is expanding rapidly but support structures remain uneven, these insights are both timely and actionable. Strengthening engagement—through supportive teaching practices, meaningful academic relationships, structured skill-building opportunities, and student-centered university policies—may buffer the harmful effects of burnout and elevate student success, even in resource-challenged settings. Ultimately, this study contributes to a growing body of research arguing that academic excellence and psychological well-being are not separate goals, but interdependent ones. For universities in Pakistan and beyond, investing in the psychological health of students is not simply a welfare initiative—it is a strategic pathway toward stronger academic performance, healthier learning cultures, and more resilient future professionals. The call is clear: where engagement thrives, students thrive.

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