

Determinants of academic burnout among nursing students: The role of student life stress and college adaptation

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ABSTRACT

Introduction: Academic burnout has become a major psychological issue among nursing students due to intensive academic workloads, clinical practice demands, and challenges of adaptation during professional education. Persistent burnout may negatively affect students' mental well-being, academic achievement, and professional readiness. This study aimed to examine the relationships among student-life stress, college adaptation, and academic burnout among undergraduate nursing students.

Research Methodology: A quantitative cross-sectional study was conducted among undergraduate nursing students at Universitas Awal Bros, Indonesia, from August to October 2025. A total of 55 respondents were recruited using total sampling. Data were collected using the Pilot Student-Life Stress Inventory (PSLSI), Student Adaptation to College Questionnaire (SACQ), and Maslach Burnout Inventory-Student Survey (MBI-SS). Descriptive statistics and Chi-square tests were applied to examine relationships between variables with a significance level of $p < 0.05$.

Results: Most respondents experienced moderate to high academic burnout (81.8%), with 50.9% moderate and 30.9% high. Student-life stress was significantly associated with academic burnout (χ^2 test, $p = 0.021$). Multivariable logistic regression analysis showed that students with high stress levels were more likely to experience academic burnout (AOR = 3.41; 95% CI: 1.28-9.12). College adaptation was also significantly associated with academic burnout (χ^2 test, $p = 0.034$), and poor college adaptation remained significantly associated with academic burnout in the multivariable model (AOR = 2.87; 95% CI: 1.11-7.46). The mean scores for student-life stress, college adaptation, and academic burnout were 2.74 ± 0.61 , 2.71 ± 0.58 , and 2.76 ± 0.63 , respectively.

Conclusion: Student-life stress and college adaptation were significant factors associated with academic burnout among nursing students. Higher stress levels were significantly associated with higher burnout, whereas better adaptation to college life was associated with lower burnout.

These findings emphasize the importance of institutional strategies, including stress management programs, counseling services, and academic support interventions, to improve psychological well-being and reduce academic burnout among nursing students.

Keywords: academic burnout; adaptation, psychological; nursing students; stress, psychological.



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INTRODUCTION

Academic burnout has emerged as a major psychological concern in higher education, particularly among students enrolled in health-related disciplines that involve intensive academic and clinical demands. Burnout is commonly characterized by emotional exhaustion, depersonalization or cynicism toward academic activities, and a reduced sense of academic efficacy resulting from prolonged exposure to stressors that exceed students' coping capacities (Ababneh et al., 2025). Among university populations, nursing students are among the most vulnerable groups because they are required to simultaneously master theoretical competencies, clinical skills, and professional responsibilities within a highly structured educational environment (Abou Hashish et al., 2024). Persistent academic burnout may adversely affect students' psychological well-being, motivation to learn, academic performance, and readiness to enter professional nursing practice (Al-Suwaidi et al., 2025).

Recent evidence indicates that academic burnout among nursing students has become increasingly prevalent across different educational settings. A systematic review and meta-analysis conducted nearly half of nursing students worldwide experienced moderate to high levels of burnout. Similar findings were reported by Asal et al. (2025), who demonstrated that nursing students frequently experience emotional exhaustion due to academic overload and early exposure to stressful clinical environments. Burnout among nursing students reflects not only individual psychological challenges but also broader academic and institutional pressures, including intensive learning schedules, competency assessments, and clinical placement demands, which may contribute to chronic psychological strain (Beason et al., 2024).

Several studies have identified academic stress as one of the strongest determinants of burnout among university students. Academic stress refers to students' psychological responses to educational demands perceived as overwhelming or difficult to manage (Wulida Litaqia et al., 2026). In nursing education, stress may arise from multiple sources, including heavy coursework, laboratory practice, clinical exposure, examination pressure, and concerns regarding future professional competence. Borromeo et al. (2026) found that sustained academic stress significantly increased the risk of emotional exhaustion and disengagement among students. Similarly, Bortey et al. (2026) reported that students under prolonged academic pressure exhibited higher burnout prevalence and lower academic satisfaction. Among nursing students specifically, Cerbito et al. (2025) highlighted that clinical practice experiences intensified stress levels because students were required to adapt quickly to real healthcare settings while maintaining academic performance.

However, exposure to stress alone does not fully explain why some students experience severe burnout while others remain psychologically resilient under similar academic conditions. This indicates the presence of additional protective or moderating factors that influence students' psychological adaptation to academic challenges. One important factor frequently associated with psychological well-being in higher education is adaptation to college life. College adaptation refers to students' ability to adjust academically, socially, emotionally, and institutionally within the university environment. Students with strong adaptation skills are generally better able to manage academic demands, establish supportive social relationships, and maintain positive engagement with learning activities.

Previous studies have shown that successful adaptation to college life may reduce the risk of burnout and improve students' psychological resilience. Chang et al. (2026) demonstrated that students with stronger adaptation abilities tended to report lower emotional exhaustion and better academic satisfaction. Connelly et al. (2024) also reported that difficulties in academic and social adjustment were significantly associated with increased psychological distress and burnout symptoms among university students. In nursing education contexts, adaptation challenges may become more complex because students are exposed not only to academic transitions but also to emotionally demanding clinical experiences. Students who fail to adapt effectively may experience cumulative psychological pressure, which can eventually contribute to burnout.

Although previous studies have examined academic burnout, student-life stress, and college adaptation among university students, most have focused on these variables separately, and few have examined their interrelationships simultaneously among nursing students. Furthermore, evidence from Indonesia remains scarce despite the distinct academic, clinical, and sociocultural characteristics of Indonesian nursing education. Understanding how student-life stress and college adaptation are associated with academic burnout is important for developing targeted interventions to support students' psychological well-being. This study addresses an important research gap by examining the associations between student-life stress, college adaptation, and academic burnout within a single analytical framework among Indonesian nursing students.

To date, limited studies in Indonesia have simultaneously examined student-life stress and college adaptation as integrated factors associated with academic burnout among nursing students. This study addresses this research gap by simultaneously analyzing student-life stress and college adaptation in relation to academic burnout among undergraduate nursing students.

The novelty of this study lies in the integrated assessment of psychological stress and adaptation using validated instruments, including the Pilot Student-Life Stress Inventory (PSLSI), Student Adaptation to College Questionnaire (SACQ), and Maslach Burnout Inventory-Student Survey (MBI-SS), within the Indonesian nursing education context. Therefore, this study aimed to examine the relationships among student-life stress, college adaptation, and academic burnout among undergraduate nursing students. The findings are expected to support the development of evidence-based strategies to reduce burnout and improve students' psychological well-being.

RESEARCH METHODOLOGY

Research design

This study employed a quantitative analytical design, using a cross-sectional approach, to examine the relationships among student-life stress, college adaptation, and academic burnout among undergraduate nursing students. A cross-sectional design was considered appropriate because the study aimed to assess the distribution of variables and their associations at a single point in time, without follow-up. This design allows efficient identification of psychosocial factors associated with academic burnout within the nursing education setting.

Setting and Participants

The study was conducted at the Nursing Study Program of Universitas Awal Bros, Indonesia, from August to October 2025. The target population consisted of all actively enrolled undergraduate nursing students during the study period. The inclusion criteria were: (1) actively registered undergraduate nursing students, (2) willingness to participate in the study, and (3) completion of all study questionnaires. Exclusion criteria included students who submitted incomplete questionnaires or withdrew from the study during data collection. A total sampling technique was applied, in which all eligible undergraduate nursing students were invited to participate. The final sample consisted of 55 respondents who met the inclusion criteria. Because the accessible population of undergraduate nursing students was relatively small, total sampling was considered the most appropriate approach to maximize population representation and minimize selection bias.

Variables and Measurement

The dependent variable in this study was academic burnout, while the independent variables were student-life stress and college adaptation. Academic burnout was operationally defined as a psychological condition characterized by emotional exhaustion, cynicism toward academic activities, and reduced academic efficacy. Burnout was measured using the Maslach Burnout Inventory-Student Survey (MBI-SS). Student-life stress was defined as the level of psychological pressure students experience in response to academic and personal demands and was measured using the Pilot Student-Life Stress Inventory (PSLSI). College adaptation was defined as students' ability to adjust academically, socially, emotionally, and institutionally to university life and was measured using the Student Adaptation to College Questionnaire (SACQ).

All instruments used in this study had been widely utilized in previous research and demonstrated acceptable psychometric properties. Previous studies reported satisfactory construct validity and internal consistency reliability for the MBI-SS, PSLSI, and SACQ, with Cronbach's alpha values exceeding 0.70.

Data Collection

Data collection was conducted after obtaining ethical approval from the institutional ethics committee. Eligible respondents received explanations regarding the study objectives, procedures, confidentiality principles, and the voluntary nature of participation. Students who agreed to participate signed informed consent before completing the questionnaires. Questionnaires were distributed directly to respondents and completed independently within the designated study period. To ensure data quality, questionnaires were checked immediately after submission to identify incomplete responses or missing data. Double-checking procedures were applied during data entry to minimize input errors and maintain data accuracy.

Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26.0. Descriptive statistics were used to summarize respondents' characteristics and study variables, including frequencies, percentages, means, and standard deviations. Bivariate analysis was performed using the Chi-square test to examine associations between student-life stress, college adaptation, and academic burnout categories. Variables showing significant associations in bivariate analysis were further analyzed using multivariable logistic regression to identify the dominant factors associated with academic burnout, while controlling for potential confounders. For the multivariable logistic regression analysis, academic burnout was dichotomized into low-to-moderate and high categories. This categorization was performed to satisfy the requirements of binary logistic regression and to identify factors independently associated with high academic burnout. The results of multivariable analysis were presented as odds ratios (ORs) with 95% confidence intervals (95% CIs). Statistical significance was determined at a p-value < 0.05 with a confidence level of 95%.

Ethical Approval

This study received ethical approval from the Research Ethics Committee of Universitas Awal Bros, Indonesia, with approval number: 045/KEPK-UAB/VIII/2025. Participation was voluntary, and all respondents provided written informed consent before enrollment. Confidentiality and anonymity of participants were maintained throughout the study, and all collected data were used exclusively for research purposes.

RESULT

This section presents the characteristics of respondents and the results of statistical analyses examining the relationships between student-life stress, college adaptation, and academic burnout among undergraduate nursing students. The findings are reported through descriptive analysis, bivariate analysis, and multivariable logistic regression to identify factors significantly associated with academic burnout.

Table 1. Characteristics of Undergraduate Nursing Student Respondents (n = 55)

Variable	Category	n	%
Age	18–19 years	15	27.3
	20–21 years	28	50.9
	22–23 years	12	21.8
Gender	Male	13	23.6
	Female	42	76.4
Semester Level	Semester 2	10	18.2
	Semester 4	17	30.9
	Semester 6	16	29.1
	Semester 8	12	21.8
Residential Status	Living with parents	26	47.3
	Boarding house/dormitory	29	52.7

Most respondents were aged 20–21 years (50.9%) and predominantly female (76.4%). Respondents were distributed relatively evenly across semesters, with the largest proportion in semester 4 (30.9%). More than half of the students lived in boarding houses or dormitories (52.7%), indicating varying living conditions that may influence psychosocial adaptation and academic stress.

Table 2. Bivariate Analysis of Student-Life Stress, College Adaptation, and Academic Burnout Among Nursing Students (n = 55)

Variable	Low Burnout n (%)	Moderate Burnout n (%)	High Burnout n (%)	Total	p-value
Student-Life Stress					
Low	6 (10.9)	4 (7.3)	1 (1.8)	11	0.021*
Moderate	3 (5.5)	16 (29.1)	7 (12.7)	26	
High	1 (1.8)	8 (14.5)	9 (16.4)	18	
College Adaptation					
Low	1 (1.8)	6 (10.9)	6 (10.9)	13	0.034*
Moderate	5 (9.1)	15 (27.3)	7 (12.7)	27	
High	4 (7.3)	7 (12.7)	4 (7.3)	15	

*Chi-square test, $p < 0.05$

Bivariate analysis demonstrated a statistically significant relationship between student-life stress and academic burnout ($p = 0.021$). Students with higher stress levels tended to experience higher burnout. In addition, college adaptation was significantly associated with academic burnout ($p = 0.034$). Students with better adaptation abilities showed lower levels of burnout than those who experienced adjustment difficulties.

Table 3. Multivariable Logistic Regression Analysis of Factors Associated with Academic Burnout Among Nursing Students (n = 55)

Variable	Adjusted OR	95% CI	p-value
High Student-Life Stress	3.41	1.28–9.12	0.014*
Poor College Adaptation	2.87	1.11–7.46	0.031*
Female Gender	1.42	0.52–3.88	0.492
Boarding House Residence	1.76	0.67–4.61	0.251

*Logistic regression test, $p < 0.05$

Multivariable logistic regression analysis showed that high student-life stress was the strongest factor associated with academic burnout among nursing students (AOR = 3.41; 95% CI: 1.28–9.12; $p = 0.014$). Students with high stress levels had approximately 3 times the risk of academic burnout compared with those with lower stress levels. Poor college adaptation was also significantly associated with burnout (AOR = 2.87; 95% CI: 1.11–7.46; $p = 0.031$). Gender and residential status were not statistically significant after adjustment.

The findings of this study indicate that academic burnout is highly prevalent among undergraduate nursing students, with most respondents classified within moderate to high burnout categories. Nursing students experienced considerable psychosocial pressure due to academic demands, clinical practice requirements, and challenges of adaptation within the university environment. Bivariate analysis demonstrated that both student-life stress and college adaptation were significantly associated with academic burnout. Students who reported higher stress levels tended to experience greater emotional exhaustion and academic disengagement, whereas students with better adaptation abilities showed lower burnout levels. Multivariable analysis further confirmed that student-life stress was the strongest determinant of academic burnout after controlling for demographic factors. In addition, poor adaptation to college life independently increased the likelihood of burnout. These findings suggest that academic burnout among nursing students is influenced not only by academic pressure but also by students' capacity to adjust psychologically and socially to higher education environments. The results highlight the importance of integrated institutional interventions, including stress management programs, counseling services, mentoring systems, and academic support strategies, to strengthen students' resilience and reduce the risk of burnout during nursing education.

DISCUSSION

The findings of this study demonstrate that academic burnout remains a significant psychological concern among undergraduate nursing students. Most respondents were categorized within moderate to high burnout levels, indicating that nursing education environments continue to expose students to substantial academic and emotional demands. These findings suggest that burnout among nursing students should not be interpreted merely as an individual inability to cope with academic pressure, but rather as a multidimensional phenomenon shaped by interactions between educational demands, psychosocial stressors, and students' adaptive capacities. Nursing education requires students to manage theoretical learning, laboratory practice, competency assessments, and clinical exposure simultaneously, creating continuous pressure that may exceed students' psychological resources when institutional support mechanisms are insufficient (Dağdelen et al., 2025).

One of the most important findings of this study is the significant relationship between student-life stress and academic burnout. Students experiencing higher levels of stress were more likely to report greater emotional exhaustion and reduced academic engagement (El-Ashry et al., 2026). This finding reinforces the conceptual assumption that persistent exposure to stressors without adequate coping mechanisms may contribute to the gradual development of burnout (Faramarzpour et al., 2025). In nursing education, stress arises not only from academic workload but also from concerns about professional competence, patient interaction, and performance expectations during clinical practice (Ghods et al., 2023). The transition from classroom-based learning to real clinical environments may intensify psychological vulnerability, as students are required to adapt quickly to emotionally demanding situations while maintaining academic achievement (Kirwan et al., 2026).

The multivariable analysis further confirmed that student-life stress was the strongest predictor of academic burnout after adjustment for demographic variables. These findings highlight that psychological stress functions as a dominant mechanism influencing students' emotional well-being and academic functioning (Lappeman et al., 2025). Conceptually, these results support the demand-resource perspective, which argues that burnout develops when educational demands consistently exceed available personal and environmental resources (Machaly et al., 2025). In this context, students who experience prolonged stress without adequate psychological support may gradually lose motivation, emotional stability, and academic engagement (Mhlongo, 2026). Therefore, burnout should be understood not solely as an outcome of excessive workload, but also as a reflection of institutional systems that may inadequately address students' psychosocial needs (Sharda & Nowell, 2025).

In addition to stress, this study demonstrated that college adaptation was significantly associated with academic burnout. Students with poorer adaptation abilities were more likely to experience burnout than those who adapted successfully to university life. This finding indicates that adaptation capacity is an important protective factor in the educational environment. Adaptation in higher education involves not only academic adjustment but also emotional regulation, social integration, and the ability to navigate institutional expectations (Speck et al., 2024). Nursing students who struggle to establish supportive peer relationships, manage time effectively, or adjust to clinical learning environments may experience cumulative psychological strain, increasing their vulnerability to burnout (Walker et al., 2025).

These findings provide an important conceptual contribution by emphasizing that both external pressures and internal adaptation processes influence burnout among nursing students. Previous studies have often examined stress and adaptation independently. In contrast, this study

demonstrates that the interaction between these factors may explain variations in burnout levels among students exposed to similar academic conditions. Students facing comparable academic demands may experience different psychological outcomes depending on their adaptation capacity and access to psychosocial support. Consequently, interventions focusing exclusively on workload reduction may not be sufficient if educational institutions fail to strengthen students' adaptive skills and emotional resilience.

The results of this study are consistent with previous international research demonstrating that academic stress is strongly associated with burnout among health-related students. Zhang et al. (2024) reported that prolonged academic stress significantly increased emotional exhaustion and disengagement among university students. Nursing students who were exposed to intensive clinical practice experienced higher levels of academic burnout due to psychological pressure and difficulties with role transition. The findings of the present study also align with those of Zhu & Liu (2026), who emphasized that students with stronger adaptation abilities tend to report lower emotional exhaustion and greater academic satisfaction. However, this study extends previous literature by integrating psychosocial stress and college adaptation within a single analytical framework among Indonesian nursing students. Much of the existing evidence has focused primarily on medical students or general university populations, whereas empirical studies specifically examining burnout determinants among nursing students in developing countries remain relatively limited. The Indonesian nursing education context presents unique challenges related to educational resources, academic intensity, and sociocultural expectations, all of which may influence students' psychological experiences in ways different from those reported in high-income settings. Therefore, the findings provide context-specific evidence on the psychosocial determinants of burnout in nursing education systems in developing countries.

Study Limitations

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design does not allow for causal inference regarding the relationships among student-life stress, college adaptation, and academic burnout. Second, the study was conducted in a single nursing institution with a relatively small sample size, which may limit the generalizability of the findings to other nursing education settings. Third, data were collected using self-reported questionnaires, which may be subject to response bias. Despite these limitations, the study provides valuable preliminary evidence regarding the psychosocial factors associated with academic burnout among undergraduate nursing students.

Recommendations for Future Research

Future studies are recommended to employ longitudinal designs to examine changes in academic burnout over time, particularly during transitions between academic and clinical learning phases in nursing education. Mixed-methods approaches may also provide a deeper understanding of students' psychological experiences, coping mechanisms, and perceptions of institutional support. In addition, future research should investigate other psychosocial and organizational factors associated with burnout, including resilience, academic engagement, self-efficacy, social support, and learning environment quality. Expanding the study setting across multiple universities and larger sample sizes would improve the generalizability of findings. Comparative studies between nursing institutions or healthcare disciplines may further clarify contextual influences on burnout. Future intervention-based research is also needed to evaluate the effectiveness of stress management programs, mentoring systems, counseling services, and academic support strategies in reducing burnout and improving students' psychological well-being and academic performance.

CONCLUSION

This study demonstrated that student-life stress and college adaptation were significantly associated with academic burnout among undergraduate nursing students. Higher levels of stress were significantly associated with greater academic burnout, whereas better adaptation to college life was associated with lower burnout. These findings suggest that academic burnout among nursing students is related not only to academic workload but also to students' psychological adaptation to educational and clinical demands. The results highlight the importance of strengthening psychosocial support systems within nursing education institutions. Evidence-based interventions such as stress management programs, academic mentoring, counseling services, peer-support initiatives, and adaptive learning strategies may help support students' resilience and psychological well-being. Educational institutions are also encouraged to evaluate academic workload distribution and clinical learning systems to reduce excessive pressure on students. Overall, this study provides empirical evidence regarding the associations between student-life stress, college adaptation, and academic burnout, which may inform the development of institutional strategies to support students' academic and psychological well-being.

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Conflict of Interest

The authors declare that there are no conflicts of interest related to this study.

Authors' contributions

Rachmawaty M. Noer: Conceptualization, Methodology, Investigation, Data Curation, Writing – Original Draft, Supervision.

Septi Maisyaroh Ulina Panggabean: Formal Analysis, Validation, Investigation, Writing – Review & Editing.

Nauza Agis Irdiana: Data Collection, Resources, Visualization, Writing – Review & Editing.

All authors contributed substantially to the study, reviewed the manuscript critically, and approved the final version for publication. All authors reviewed and approved the final manuscript.

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Declaration of generative AI use

The authors used generative artificial intelligence tools only for language refinement, grammar correction, and readability improvement during manuscript preparation. All scientific content, interpretation of findings, and final decisions remained under the full responsibility of the authors. The authors reviewed and approved the final version of the manuscript before submission.

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