



The Impact of Stress Levels on Academic Performance Among University Students

Launa Lutfi Sania¹, Rendi Nur Alamsyah¹, Nurul Sa'adah¹, No'er Salma Fitriani¹, Riska Siti Sofiyanti¹, Henri Setiawan¹

¹STIKes Muhammadiyah Ciamis, West Java, Indonesia

Correspondence author: Launa Lutfi Sania

Email: launalutfisania2005@gmail.com

Address: Jln. KH. Ahmad Dahlan No. 20 Ciamis 46216 Jawa Barat, Indonesia 081224786902

DOI: <https://doi.org/10.56359/kian.v4i2.596>



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

ABSTRACT

Objective: This study aims to investigate the impact of stress levels on academic performance among university students.

Method: This study employed a cross-sectional design involving 47 university students from various higher education institutions in Indonesia. Data were collected through an online questionnaire distributed via Google Forms, which included demographic questions, a standardized stress scale (DASS-42), and self-reported GPA. Data were analyzed using SPSS version 22 with the Gamma correlation test to examine the relationship between stress levels and academic performance.

Results: The analysis showed no significant relationship between stress levels and academic performance among university students. The Gamma correlation test yielded a p -value of 0.605, indicating that stress levels did not statistically correlate with self-reported GPA.

Conclusion: The findings suggest that stress levels do not significantly influence academic performance among university students. Other factors such as coping strategies, motivation, and support systems may play a more critical role in academic outcomes.

Keywords: academic stress, academic performance, university students

Introduction

The academic environment in higher education is widely recognized as a setting that imposes substantial demands on students, both intellectually and emotionally^[1]. University students are expected to balance rigorous academic responsibilities, adapt to new social environments, and make important decisions about their futures. These developmental challenges frequently give rise to stress, a psychological state that occurs when individuals perceive the demands placed upon them as exceeding their available coping resources^[2]. In academic contexts, stress is particularly prevalent, as students face pressure to maintain satisfactory academic performance, meet deadlines, and prepare for high-stakes examinations. The growing recognition of academic stress as a critical factor influencing student well-being and educational outcomes has led to increasing scholarly interest in understanding its implications^[3].

Stress, in moderate amounts, may act as a motivator that encourages students to stay focused and complete academic tasks efficiently^[4]. However, when experienced excessively or over prolonged periods, stress tends to have detrimental effects on both psychological functioning and academic achievement. Cognitive theories suggest that chronic stress disrupts the brain's executive functions such as working memory, attention regulation, and decision-making which are crucial for learning, comprehension, and academic performance^[5]. Furthermore, heightened stress levels have been associated with emotional disturbances such as anxiety, depression, and burnout, which in turn may result in reduced academic motivation, concentration difficulties, and impaired academic productivity.

The transactional model of stress and coping, developed by Lazarus and Folkman, provides a foundational framework for understanding the mechanisms through which stress influences academic outcomes. According to this model, stress arises not solely from environmental stimuli, but from the interaction between the individual and their perceived ability to manage demands. This perspective emphasizes the role of individual appraisal and coping responses^[6]. When students perceive academic challenges as threats rather than manageable tasks, stress responses are likely to be activated, potentially interfering with learning and performance. Moreover, students who lack effective coping strategies may experience heightened vulnerability to the adverse effects of stress, particularly in demanding academic contexts^[7].

A considerable body of empirical research has documented the prevalence of academic stress among university populations. Surveys conducted in various countries consistently report that a significant proportion of students identify academic stress as one of the primary sources of psychological strain during their university years. For example, factors such as test anxiety, course workload, competition among peers, and uncertainty about future career paths are commonly reported stressors^[8]. In many instances, academic stress is found to be positively correlated with symptoms of psychological distress and negatively associated with academic achievement indicators such as grade point average (GPA), course completion rates, and academic honors.

Studies employing quantitative approaches have yielded consistent findings regarding the negative association between high stress levels and academic performance^[9]. High stress has been linked to lower GPA scores, reduced class attendance, and higher dropout rates. In addition, students experiencing elevated stress are more likely to engage in maladaptive coping strategies such as procrastination, avoidance, and self-isolation, which further impair academic functioning^[10]. Conversely, students who employ adaptive coping mechanisms such as time management, seeking social support, and practicing mindfulness tend to report better academic

outcomes and greater psychological resilience^[11]. These findings suggest that while stress itself may be an unavoidable part of academic life, its impact on performance can be moderated by how students respond to it.

Although the negative impact of stress on academic performance is well-documented, research also indicates that the relationship is complex and influenced by several mediating and moderating variables. Among these are individual differences in personality traits, coping style, self-efficacy, and social support. Students who demonstrate high levels of resilience and optimism may perceive academic challenges as opportunities for growth rather than threats, which buffers them from the deleterious effects of stress^[12]. Additionally, the institutional context including the availability of academic counseling, mental health services, and supportive faculty plays a significant role in shaping students' stress experiences and outcomes^[13].

In recent years, the global context of higher education has introduced new dimensions to the stress performance dynamic. The increasing competitiveness of academic programs, rising tuition costs, and broader economic uncertainty have intensified stress levels among university students^[14]. The COVID-19 pandemic, in particular, has brought unprecedented disruptions to academic routines, resulting in a surge of stress related to online learning, digital fatigue, social isolation, and reduced access to campus resources^[15]. These evolving stressors highlight the need to understand not only the individual but also the systemic factors that contribute to academic stress in the contemporary era.

While extensive literature exists on academic stress, many studies focus on specific populations, such as medical students or students in highly competitive programs^[16]. Less attention has been given to the broader university student population, particularly in non-Western or developing country contexts^[17]. Furthermore, much of the existing research is cross-sectional in nature, limiting the ability to infer causality or identify long-term patterns^[18]. As a result, there is a continuing need for empirical investigations that examine the relationship between stress and academic performance across diverse settings and student populations.

Understanding this relationship is of practical importance for educational institutions seeking to foster environments that support student learning and well-being^[19]. Insights into how stress levels correlate with academic outcomes can inform the development of targeted interventions, such as stress management workshops, academic support programs, and peer mentoring initiatives. These strategies have the potential to not only enhance student performance but also reduce the incidence of mental health problems among university students. Educational policymakers and university administrators benefit from evidence-based recommendations that help balance academic rigor with student health^[20].

In addition, the exploration of academic stress provides a window into broader psychosocial dynamics affecting university students. Factors such as gender, socioeconomic status, cultural background, and family expectations often interact with academic stress in shaping student experiences. For example, research suggests that female students may report higher stress levels due to the dual burden of academic and social expectations^[21]. Similarly, students from underprivileged backgrounds may face additional pressures related to financial insecurity, limited access to learning resources, and the need to work part-time while studying^[22].

Given these considerations, the study of stress and academic performance remains a vital area within educational psychology and student development research. Continued exploration of this topic offers valuable contributions to both theoretical understanding and practical intervention. By identifying patterns in how stress levels affect learning outcomes, researchers

and educators are better equipped to design inclusive, supportive, and responsive academic environments. As institutions of higher learning strive to cultivate academic excellence and holistic student development, addressing the issue of stress becomes not merely a matter of academic interest, but a foundational concern for educational equity and sustainability.

Objective

This study aims to investigate the impact of stress levels on academic performance among university students.

Method

Design and participants

This cross-sectional study was conducted between March and April 2025 among university students enrolled in various higher education institutions across Indonesia. A total of 47 students participated in the study. The participants were selected using convenience sampling through online distribution of questionnaires. The inclusion criteria consisted of: (1) Voluntary participation in the study; (2) enrolled as an active student during the research period; (3) willing to complete the questionnaire independently. Meanwhile, the exclusion criteria included: (1) currently on academic leave or inactive status; (2) diagnosed with a mental health disorder; (3) incomplete or inconsistent questionnaire responses.

Instrument and measurement

The main instrument used in this study was the Depression Anxiety Stress Scale-42 (DASS-42) questionnaire, developed by Lovibond (1995). DASS-42 is a standardized self-report tool designed to assess three negative emotional states: depression, anxiety, and stress. In this study, only the 14 items related to the stress subscale were utilized to measure participants' stress levels. Each item was rated using a 4-point Likert scale, where 0 indicated "did not apply to me at all," 1 "applied to me to some degree," 2 "applied to me a considerable degree," and 3 "applied to me very much." The total score from the stress subscale was then categorized into five levels: normal (0–14), mild (15–18), moderate (19–25), severe (26–33), and extremely severe (≥ 34).

Academic performance was assessed based on participants' Grade Point Average (GPA), which was self-reported through the questionnaire. The GPA scores were categorized into four levels: cum laude (3.50–4.00), very good (2.75–3.49), good (2.00–2.74), and poor (< 2.00).

The DASS-42 used in this study has demonstrated good discriminant validity and high reliability, with a Cronbach's alpha coefficient of 0.91 for the stress subscale, indicating excellent internal consistency. The version of the questionnaire used was translated into Indonesian and previously validated by Damanik. It was reviewed prior to use to ensure clarity and comprehension among university student participants.

Data Collection

Data collection was carried out online using a self-administered questionnaire distributed via Google Forms. The link to the questionnaire was shared through various digital platforms, including student group chats and social media channels, to reach university students from different institutions. Before accessing the questionnaire, participants were presented with an

informed consent form explaining the purpose of the study, confidentiality of responses, and their right to withdraw at any time without consequence. Only students who voluntarily agreed to participate were allowed to proceed with the survey. The form included demographic questions, a standardized stress scale, and academic performance indicators. Participants were given adequate time to complete the questionnaire at their convenience, and all responses were securely stored in a digital database for further analysis. This method was chosen to ensure ease of access, protect respondent anonymity, and facilitate efficient data collection within the designated timeframe.

Data Analysis

Data analysis was performed using Statistical Package for the Social Sciences (SPSS) version 22. Prior to analysis, the collected data were cleaned and checked for completeness and consistency. Descriptive statistics were used to summarize participants' demographic characteristics, stress levels, and academic performance. To examine the relationship between stress levels and academic performance, the Gamma correlation test was employed, as it is appropriate for analyzing the association between ordinal variables. The results were interpreted based on the significance level set at $p < 0.05$.

Result and discussion

Sociodemographic of respondent

Table 1. Sociodemographic Characteristics

Variable	F/Mean	% SD
Gender		
• Male	9	19.1
• Female	38	80.9
• Total	47	100.0
Age	20.30	1.366
• <Mean	29	61.7
• >Mean	18	38.3
• Total	47	100.0
Stress Level		
• Very Severe	12	25.5
• Severe	14	29.8
• Moderate	16	34.0
• Mild	4	8.5
• Normal	1	2.1
• Total	47	100.0
Academic Performance		
• Good	1	2.1
• Very Good	11	23.4
• Cumlaude	35	74.5
• Total	47	100.0

Table 1 presents the sociodemographic characteristics of the study participants. The majority of respondents in this study were female (80.9%), while male participants made up 19.1% of the total 47 respondents. The average age was 20.30 years with a standard deviation of 1.366, where 61.7% were below the mean age and 38.3% were above it. In terms of stress levels, most respondents experienced moderate (34.0%), severe (29.8%), or very severe stress (25.5%), while only a few reported mild (8.5%) or normal stress levels (2.1%). Regarding academic performance, the majority achieved cumlaude status (74.5%), followed by very good (23.4%), and only 2.1% were categorized as good.

Main findings

Tabel 2. Correlationship Between Variables

Stress Level	Good		Very Good		Cumlaude		Total		P. Value
	F	%	F	%	F	%	F	%	
Very Severe	0	0.0	5	41.7	7	58.3	12	100.0	0.605
Severe	1	7.1	3	21.4	10	71.4	14	100.0	
Moderate	0	0.0	3	18.8	13	81.3	16	100.0	
Mild	0	0.0	0	0.0	4	100.0	4	100.0	
Normal	0	0.0	0	0.0	1	100.0	1	100.0	
Total	1	2.1	11	23.4	35	74.5	47	100.0	

Table 2 presents the relationship between stress levels and academic performance among the respondents. The highest proportion of cumlaude achievers was found in the moderate stress group (81.3%), followed closely by those with severe (71.4%) and very severe stress levels (58.3%). Interestingly, all respondents with mild and normal stress levels (100% in both cases) also achieved cumlaude status. Only one respondent with severe stress fell into the “good” academic performance category (2.1%), while the majority of “very good” achievers were spread across the very severe (41.7%), severe (21.4%), and moderate (18.8%) stress categories. The statistical analysis shows a p-value of 0.605, indicating no significant correlation between stress levels and academic performance in this sample.

Discussion

The findings of this study revealed that there was no statistically significant relationship between stress levels and academic performance among university students, as indicated by a Gamma correlation p -value of 0.605. This result suggests that variations in students’ perceived stress do not directly correspond with fluctuations in their academic achievement, as measured by GPA. Although previous literature widely supports the notion that excessive stress may impair academic functioning through cognitive and emotional pathways, the lack of significant association in this study points to the complexity of this relationship and the possible influence of moderating and mediating variables. One possible explanation for this finding lies in the individual differences in stress perception and coping mechanisms. Not all students respond to stress in the same way some may view academic stress as a motivational challenge rather than a debilitating pressure^[23]. According to the transactional model of stress and coping by Lazarus and Folkman, stress is not solely a result of external demands but also of an individual’s appraisal of their capacity to handle those demands^[24]. Therefore, students who perceive themselves as

capable and equipped to manage academic responsibilities may not experience negative academic outcomes, even if their stress levels are high^[25].

Moreover, the presence of adaptive coping strategies such as time management, help-seeking behaviors, and peer support may buffer the potential negative effects of stress^[26]. Students with high stress may still perform well academically if they utilize effective coping mechanisms^[27]. On the other hand, students with low stress levels may perform poorly if they lack motivation or use passive coping strategies such as procrastination^[28]. This indicates that stress alone may not be a sufficient predictor of academic performance, and that performance is shaped by a broader set of psychological, behavioral, and environmental factors.

Another consideration is the variability in academic evaluation systems and how students self-report their academic performance. The use of GPA as a measure of academic achievement, while common and practical, does not fully capture all dimensions of student learning or competence^[29]. Additionally, self-reported GPA is subject to bias, especially if students feel pressure to report higher scores or if they misunderstand their actual academic standing^[30]. These potential measurement limitations may obscure any subtle associations that might exist between stress and performance. It is also important to note that stress does not operate in isolation. Other psychosocial variables, such as self-efficacy, motivation, resilience, and social support, may mediate or moderate the impact of stress on academic outcomes^[31]. For example, students with high academic self-efficacy may continue to perform well despite experiencing stress, while those with low self-efficacy may perform poorly even in the absence of significant stress. Similarly, supportive environments including family, peers, and academic institutions can act as protective factors against the adverse effects of stress.

The context of the study may also play a role in shaping the results. The data collection occurred through an online platform and relied on voluntary participation, which may have introduced a level of self-selection bias. Students who chose to participate may have been those with better academic standing or better stress management, thus affecting the variability in both stress and GPA scores. Furthermore, the study was conducted during a relatively stable academic period, without extraordinary stressors such as final exams or national disruptions, which might have diluted the impact of stress on academic performance. Interestingly, some recent studies have echoed similar findings, reporting non-significant or weak correlations between stress and GPA. These findings suggest that while stress is a prevalent and concerning issue among students, it may not consistently manifest in measurable academic decline. Instead, the impact of stress might be more evident in other domains, such as mental health, sleep quality, interpersonal relationships, or engagement with academic material, which were not directly assessed in this study^[32].

In light of these findings, it is essential to emphasize that the absence of a significant correlation does not imply that stress is irrelevant in academic contexts. Rather, it highlights the need for a multidimensional approach in understanding student success and well-being. Educational institutions should continue to provide resources for stress management, mental health support, and academic skills training not solely because stress might reduce GPA, but because of its broader implications on students' quality of life and long-term development. Future research should consider incorporating longitudinal designs, larger and more diverse samples, and multi-informant data (e.g., from academic records or faculty assessments) to gain a deeper understanding of how stress interacts with academic performance over time. It would also be beneficial to explore the role of specific stressors (e.g., financial, relational, academic)

and different types of academic outcomes, such as class participation, creativity, critical thinking, and engagement. Understanding these nuances may help uncover more precise pathways through which stress impacts educational experiences.

Conclusion

This study found no significant relationship between stress levels and academic performance among university students, as indicated by a Gamma correlation p-value of 0.605. While stress is often viewed as a factor that negatively affects academic outcomes, the findings suggest that academic performance may be influenced more by individual coping strategies, psychological resilience, and environmental support systems than by stress alone. These results highlight the complexity of student experiences in higher education and underscore the importance of addressing stress not only as an academic concern but also as a broader issue of mental well-being. Future research is encouraged to explore additional variables that may mediate or moderate the relationship between stress and academic achievement, using more diverse samples and comprehensive assessment tools.

Reference

- [1] Marshall S, Blaj-Ward L, Dreamson N, Nyanjom J, Bertuol M T. The reshaping of higher education: technological impacts, pedagogical change, and future projections[J]. *Higher Education Research and Development*, 2024, 43(3).
- [2] von Keyserlingk L, Yamaguchi-Pedroza K, Arum R, Eccles J S. Stress of university students before and after campus closure in response to COVID-19[J]. *Journal of Community Psychology*, 2022, 50(1).
- [3] Lisnyj K T, Pearl D L, McWhirter J E, Papadopoulos A. Exploration of factors affecting post-secondary students' stress and academic success: Application of the socio-ecological model for health promotion[J]. *International Journal of Environmental Research and Public Health*, 2021, 18(7).
- [4] Usher E L, Golding J M, Han J, Griffiths C S, McGavran M B, Brown C S, Sheehan E A. Psychology Students' Motivation and Learning in Response to the Shift to Remote Instruction During COVID-19[J]. *Scholarship of Teaching and Learning in Psychology*, 2024, 10(1).
- [5] Guler K, Aydin A. The Relationship Among Working Memory Capacity, Cognitive Flexibility and Cognitive Emotion Regulation[G]//*Learning and Memory - From Molecules and Cells to Mind and Behavior.*, 2023.
- [6] Yazdanpanah M, Zobeidi T, Tajeri Moghadam M, Komendantova N, Löhr K, Sieber S. Cognitive theory of stress and farmers' responses to the COVID 19 shock; a model to assess coping behaviors with stress among farmers in southern Iran[J]. *International Journal of Disaster Risk Reduction*, 2021, 64.
- [7] Salimzadeh R, Hall N C, Saroyan A. Examining Academics' Strategies for Coping With Stress and Emotions: A Review of Research[J]. *Frontiers in Education*, 2021, 6.

- [8] Saqib M, Hisham-Ul-Hassan K, Shadab I, Mehmood N. Impact of Academic Stress on Secondary School Student's Performance: A Qualitative Exploration[J]. *Journal of Asian Development Studies*, 2023, 12(4).
- [9] Wunsch K, Fiedler J, Bachert P, Woll A. The tridirectional relationship among physical activity, stress, and academic performance in university students: A systematic review and meta-analysis[J]. *International Journal of Environmental Research and Public Health*, 2021, 18(2).
- [10] Guskowska M, Dąbrowska-Zimakowska A. Coping with Stress During the Second Wave of the COVID-19 Pandemic by Polish University Students: Strategies, Structure, and Relation to Psychological Well-Being[J]. *Psychology Research and Behavior Management*, 2022, 15.
- [11] Fullerton D J, Zhang L M, Kleitman S. An integrative process model of resilience in an academic context: Resilience resources, coping strategies, and positive adaptation[J]. *PLoS ONE*, 2021, 16(2 February).
- [12] Zaheer Z, Asad Khan M. Perceived Stress, Resilience and Psychological Well-Being among University Students: The Role of Optimism as a Mediator[J]. *Asian Social Studies and Applied Research*, 2022, 3(1).
- [13] Tran N T, Franzen J, Jermann F, Rudaz S, Bondolfi G, Ghisletta P. Psychological distress and well-being among students of health disciplines in Geneva, Switzerland: The importance of academic satisfaction in the context of academic year-end and COVID-19 stress on their learning experience[J]. *PLoS ONE*, 2022, 17(4 April).
- [14] Scott T, Mhunpiew N. Impact of Government Policies and International Students on UK University Economic Stability[J]. *International Education Studies*, 2021, 14(5).
- [15] Leal Filho W, Lange Salvia A, Abubakar I R, Mifsud M, Azadi H, Sharifi A, LeVasseur T, Luetz J M, Velazquez L, Singh P, Pretorius R, Akib N A M, Savelyeva T, Brandli L, Muthu N, Lombardi P. Impacts of the COVID-19 Pandemic on Routines of Higher Education Institutions: A Global Perspective[J]. *Sustainability (Switzerland)*, 2022, 14(21).
- [16] Haykal K A, Pereira L, Power A, Fournier K. Medical student wellness assessment beyond anxiety and depression: A scoping review[J]. *PLoS ONE*, 2022, 17(10 October).
- [17] Tight M. Internationalisation of higher education beyond the West: challenges and opportunities—the research evidence[J]. *Educational Research and Evaluation*, 2022, 27(3–4).
- [18] Khan N, Chalitsios C V., Nartey Y, Simpson G, Zaccardi F, Santer M, Roderick P J, Stuart B, Farmer A J, Dambha-Miller H. Clustering by multiple long-term conditions and social care needs: a cross-sectional study among 10 026 older adults in England[J]. *Journal of Epidemiology and Community Health*, 2023, 77(12).
- [19] Alkhodary D A. Exploring the Relationship between Organizational Culture and Well-Being of Educational Institutions in Jordan[J]. *Administrative Sciences*, 2023, 13(3).
- [20] Wang Q, Zainal Abidin N E, Aman M S, Wang N, Ma L, Liu P. Cultural moderation in sports impact: exploring sports-induced effects on educational progress, cognitive focus, and social development in Chinese higher education[J]. *BMC Psychology*, 2024, 12(1).

- [21] Horta H, Tang L. Male and female academics' gendered perceptions of academic work and career progression in China[J]. *Higher Education Quarterly*, 2023, 77(3).
- [22] Mistry R S, Elenbaas L. It's All in the Family: Parents' Economic Worries and Youth's Perceptions of Financial Stress and Educational Outcomes[J]. *Journal of Youth and Adolescence*, 2021, 50(4).
- [23] Jenkins A, Weeks M S, Hard B M. General and specific stress mindsets: Links with college student health and academic performance[J]. *PLoS ONE*, 2021, 16(9 September).
- [24] Obbarius N, Fischer F, Liegl G, Obbarius A, Rose M. A Modified Version of the Transactional Stress Concept According to Lazarus and Folkman Was Confirmed in a Psychosomatic Inpatient Sample[J]. *Frontiers in Psychology*, 2021, 12.
- [25] Ma Y, Bennett D. The relationship between higher education students' perceived employability, academic engagement and stress among students in China[J]. *Education and Training*, 2021, 63(5).
- [26] Simone L, Gnagnarella C, Spina G, Bersani G. Help-seeking as a maladaptive coping style in the pandemic scenario: What worked and what did not for facing this new stressor[J]. *International Journal of Environmental Research and Public Health*, 2022, 19(1).
- [27] Khan M. Academic Self-Efficacy, Coping, and Academic Performance in College[J]. *International Journal of Undergraduate Research and Creative Activities*, 2013, 5(0).
- [28] Shang Z, Cao Y, Cui Z, Zuo C. Positive delay? The influence of perceived stress on active procrastination[J]. *South African Journal of Business Management*, 2023, 54(1).
- [29] Anokye Effah N A, Nkwantabisa A O. The influence of academic engagement on academic performance of university accounting students in Ghana[J]. *South African Journal of Accounting Research*, 2022, 36(2).
- [30] Hatos A, Gyarmati B F. The Reliability of Self-Reported GPA in Educational Research: A Comparison of Self-Reported and Officially Recorded Data[J]. *Revista Romaneasca pentru Educatie Multidimensionala*, 2023, 15(4).
- [31] Zhang Y, Cao X, Lei G, Wu H. Relationship between perceived social support and postgraduate students' general self-efficacy: a mediated model with moderation[J]. *Current Psychology*, 2024, 43(16).