Predicting Academic Stress Among Malaysian Undergraduates: The Roles of Sleep Quality and Perceived Accessibility to Mental Health Support

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ABSTRACT

Academic stress among university students poses severe risks to mental well-being and academic performance, yet the combined role of sleep hygiene and institutional support systems in suburban educational hubs remains insufficiently quantified. Grounded in transactional stress theory, this study investigate the significant influence of sleep quality and access to mental health support on academic stress levels among undergraduates in Selangor, Malaysia. A quantitative, descriptive-correlational cross-sectional survey was administered to 220 students across semesters three to five at selected Malaysian public universities. Multiple linear regression analysis revealed a weak positive association between sleep quality index scores and reported academic stress, while perceived accessibility to mental health support demonstrated no statistically significant predictive effect on stress levels. Overall, the model accounted for a modest proportion of variance in student stress. These empirical findings indicate that formal campus support channels remain underutilized or misaligned with student needs during peak academic periods. University administrators must move beyond basic awareness campaigns to restructure counseling accessibility and integrate sleep hygiene interventions into campus wellness frameworks.

Keywords: Academic stress, sleep quality, mental health support, university students

INTRODUCTION

Academic stress among higher education students has emerged as a pervasive global concern, severely affecting psychological well-being, cognitive functioning, and overall academic performance (Pascoe et al., 2020). In the post-pandemic tertiary education landscape, students face heightened pressure stemming from rigorous academic benchmarks, shifting pedagogical modalities, and mounting socio-economic expectations (El-Ghoroury et al., 2012). While academic stress is a multifaceted phenomenon, recent literature emphasizes the pivotal roles played by physiological health—specifically sleep quality and institutional support structures in mediating student stress responses (Ahrberg et al., 2012; Pitcher et al., 2007). Grounded in Lazarus and Folkman's (1984) Transactional Model of Stress and Coping, psychological stress arises when individuals evaluate environmental demands as exceeding their available resources. Within this theoretical framework, sleep quality serves as a critical internal physiological resource that dictates emotional regulation and cognitive resilience, whereas mental health support mechanisms represent an external organizational resource provided by higher education institutions (HEIs). Despite the theoretical consensus that adequate biological rest and accessible institutional counseling should mitigate perceived stress, empirical findings remain highly nuanced and occasionally paradoxical across different regional contexts (Lemma et al., 2012).

In Malaysia, the higher education sector has experienced rapid expansion, turning regional hubs like Selangor into major centers for tertiary education. However, this growth has coincided with rising reports of burnout,

anxiety, and sleep disturbances among Malaysian undergraduates (Ajtebi et al., 2021). While previous studies have examined general mental health awareness among university students in Southeast Asia, significant empirical gaps persist regarding how sleep hygiene and institutional mental health accessibility interact dynamically to influence academic stress during mid-stage university progression (specifically, semesters three through five). This mid-tenure academic phase is particularly critical, as students transition from introductory coursework to advanced specialization while facing increased credit loads. Furthermore, existing literature often treats mental health support services as universally effective interventions without thoroughly evaluating student perception and utilization barriers (Eisenberg et al., 2007). The extent to which physical health recovery (sleep) can offset organizational gaps in formal support services or vice versa—remains insufficiently quantified within public university settings in developing nations. To bridge these empirical and theoretical gaps, this study examines the influence of sleep quality and access to mental health support on academic stress among undergraduate students in Selangor, Malaysia. Specifically, this research addresses three primary objectives:To assess the prevalence and severity of academic stress, sleep quality disruptions, and perceived mental health support access among mid-tenure undergraduates. This study aimed to investigate the significant influence of sleep quality and perceived accessibility to mental health support on academic stress levels among undergraduates in local universities in Selangor.

LITERATURE REVIEW

Academic Stress

Academic stress, a core developmental challenge widely prevalent among college students, was first clearly defined by Zhang et al. (2022) in a quantitative study of East Asian university students as the persistent psychological load and adaptive imbalance that arises when individuals cope with academic requirements, evaluation standards, and developmental expectations. This issue is not an isolated campus adaptation problem; rather, it is a core public health topic that directly impacts the mental health, long-term academic performance, and overall physical and psychological well-being of college students worldwide. In a survey of 12 higher education institutions across the Middle East and North Africa, Yousif et al. (2022) identified four core sources of academic stress among college students: the frequency and intensity of course assessments, competition for further education, family expectations, and employment anxiety. Excessively accumulated academic stress not only triggers physical symptoms such as insomnia and chronic fatigue but also induces behavioral problems, including academic disengagement and procrastination, which in turn create persistent barriers to academic progress. This study posits that accurately identifying the root causes of stress across student groups is a core prerequisite for providing targeted support, advancing campus burden-reduction efforts, and building a healthy campus environment. Survey data collected by Liu et al. (2023) from nearly 8,000 enrolled students across 17 Chinese undergraduate institutions confirms the pervasiveness of this issue: 62.7% of participating students reported experiencing moderate or higher levels of academic stress. That study also identified a significant negative correlation between academic stress and psychological variables, including depressive symptoms and reduced positive affect. A cross-national comparative study of university students across 11 countries conducted by Ijaz (2024) further verified the cross-cultural generalizability of this association. This study ultimately concludes that there is an urgent need to clarify the internal mechanisms linking academic stress to depression and anxiety, build an effective support system covering campuses, families, and society at large, and substantially reduce the long-term negative impacts of academic stress on students' mental health.

Grounded in recent global literature, academic stress represents a pervasive public health challenge defined as the psychological load and adaptive imbalance arising from overwhelming institutional and social demands (Zhang et al., 2022). Driven primarily by assessment intensity, employment anxiety, competitive pressure, and family expectations (Yousif et al., 2022), moderate-to-severe stress affects over 60% of undergraduates (Liu et al., 2023). Across diverse international cohorts, this stress triggers severe physiological disruptions (e.g., insomnia) and behavioral disengagement while exhibiting a validated inverse relationship with student mental health and positive affect (Ijaz, 2024; Liu et al., 2023). Consequently, scholars emphasize the urgent institutional necessity of mapping stress catalysts to establish multi-layered campus, family, and social support systems (Ijaz, 2024; Yousif et al., 2022).

Sleep Quality

Sleep quality is a core indicator of an individual's overall health, comprising two dimensions: actual daily sleep duration and the sense of physical and mental refreshment and recovery after waking. As a key subgroup of the youth population, college students have received widespread academic attention for their sleep quality issues in recent years. Research by Wang and Bíró (2020) indicates that, under the dual pressures of intensifying academic pressure and the transition to independent living, the sleep quality of college students urgently requires greater attention. A study co-conducted by the American Academy of Sleep Medicine and Mbous et al. (2022) clarifies that the recommended daily sleep duration for young adults is 7 to 9 hours; the sampling data released concurrently in this study shows that more than 50% of college students fail to meet the basic sleep standard of 8 hours per day. Research by Sultana-Muchindu and Chiwala (2024) further notes that poor sleep can trigger symptoms such as insomnia, persistent daytime fatigue, and unstable mental states, all of which directly undermine college students' academic performance, thereby warranting further investigation into the academic pressure individuals experience. Studies by Almarzouki et al. (2022) and Carpi et al. (2022) sort out two core categories of factors affecting college students' sleep quality: first, unhealthy lifestyle habits including irregular bedtimes, intentional staying up late, social activities encroaching on rest time, excessive coffee consumption, and following the trend of glorifying late nights; second, academic pressure and psychological burdens stemming from the pursuit of outstanding academic results. Multiple studies by Yaghmour et al. (2023), Almarzouki et al. (2022), and Aydin and Aydin (2024) jointly verified a complete causal chain: insufficient sleep impairs core cognitive functions such as memory and decision-making, which in turn leads to poor understanding of in-class knowledge and ineffective memory retention for exam preparation, ultimately resulting in declining academic performance. These falling grades then further increase academic pressure, forming a vicious cycle that is difficult to break. A recently published exploratory study attempts to address this issue through the lens of campus ecological interventions. According to a 2022 external study, emotional stress caused by low-quality sleep raises students' risk of developing anxiety and depression. Insufficient sleep leaves students unable to effectively manage emotional stress, which further damages their mental health. It also triggers academic pressure tied to mental health problems, reducing students' academic engagement and their satisfaction with their own academic efforts. Sufficient, high-quality sleep is undoubtedly a core, effective pathway to maintaining physical and mental health, building a high-quality learning environment, easing academic pressure, and achieving excellent academic performance.

Grounded in the discussion on sleep quality operates as a fundamental bi-dimensional resource comprising physiological duration and restorative recovery that dictates undergraduate cognitive function and psychological resilience (Wang & Biro, 2020). Despite clinical standards recommending 7 to 9 hours of sleep daily, over 50% of university students experience severe sleep deprivation driven by a combination of voluntary lifestyle choices and structural academic pressures (Almarzouki et al., 2022; Mbous et al., 2022). Empirical evidence demonstrates that sleep degradation triggers executive cognitive deficits in memory consolidation and decision-making, directly impairing academic performance and accelerating mental health risks such as anxiety and depression (Aydin & Aydin, 2024; Sultana-Muchindu & Chiwala, 2024; Yaghmour et al., 2023). This cognitive decline creates a self-reinforcing vicious cycle wherein falling grades intensify academic stress, which further disrupts sleep architecture (Almarzouki et al., 2022). Consequently, higher education administrators must move beyond individual sleep hygiene education to implement campus-wide ecological interventions that address the structural drivers of academic burden and support student well-being. Therefore the hypothesis developed based on:

Hypothesis 1: There is a relationship between sleep quality and academic stress among university students

Perceived Accessibility Mental Health Support

Perceived access to mental health support is an important structural buffer against academic stress, shaping university students' perceptions and navigation of demanding educational contexts. Grounded in appraisal-based frameworks, undergraduates' perceptions of the accessibility, transparency, and low-threshold nature of institutional counseling, peer support networks, and psychological resources lower their secondary stress appraisals, thus decreasing feelings of academic overload and burnout (Dale, 2025; Gebregergis & Csukonyi,

2024). Conversely, when structural and perceptual barriers, such as long wait times, complicated intake processes, fear of institutional disclosure, and social stigma, affect perceived access, students have lower intentions to seek professional help, even under intense academic pressure (Dale, 2025; Stanley-Clarke et al., 2024). Current empirical studies highlight that physical availability does not guarantee psychological respite; instead, maximizing perceived access via transparent service pathways, digital access points, and nurturing campus environments directly improves students' coping skills and reduces academic distress (Ashraf et al., 2026; Rubio et al., 2025).

In today's higher education setting, perceived access to mental health support has been identified as a significant predictor of student well-being and help-seeking behaviors. While psychological services have increased at post-pandemic universities, empirical literature suggests that the physical availability of services does not necessarily translate into functional or perceived access. Recent work within institutional support frameworks and help-seeking paradigms has conceptualized perceived accessibility as a multidimensional construct encompassing information transparency, administrative navigation, cultural safety, and freedom from social stigma. Dale (2025) points out that undergraduates experience considerable friction when attempting to access university mental health systems. This friction is due to practical uncertainty about how to enter the system, and deep-seated attitudinal barriers such as the minimization of problems and discomfort with talking about psychological distress. From a structural perspective, the perception of support services as accessible is directly influenced by institutional delivery systems. Ashraf et al. (2026) suggest that improved access to physical and digital campus spaces directly promotes intentions to seek help for mental health, especially among vulnerable student populations such as those with non-apparent disabilities. However, systemic bottlenecks such as long appointment wait times, low counselor-to-student ratios, complicated intake processes, and high out-of-pocket costs often reinforce a sense of institutional unresponsiveness. Institutional infrastructure also interacts with social and environmental dynamics to shape service engagement. Rubio et al. (2025) identify social support networks, peer attitudes, and inclusive campus environments as important mediators that relate the availability of services to their actual use. The active inclusion of peer support ambassadors, the streamlining of digital intake portals, and the normalization of mental health literacy on university campuses result in significantly higher perceived accessibility and stronger intentions among students to use professional counseling. In conclusion, scholarship on higher education has shown that improving student mental health requires more than just providing resources; it requires actively working to improve perceived accessibility. Higher education administrators must continue to demystify entry points to counseling, eliminate administrative friction, and align campus support with students' help-seeking behaviors to create resilient academic environments. Hence, this study proposes, as shown in Figure 1, that educators and researchers can treat mental health support as an independent variable for observation and intervention, implement supportive measures, and simultaneously promote the dual improvement of students' academic performance and mental health.

Hypothesis 2: There is a relationship between perceived accessibility of mental health support and academic stress among university students.

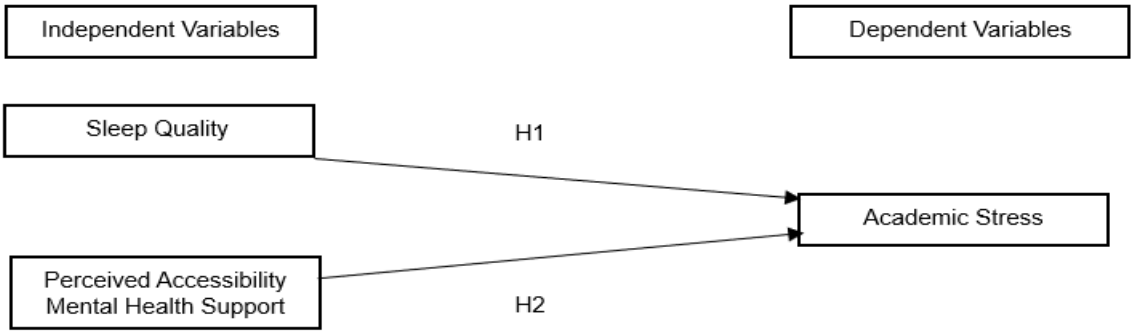

Figure 1: Conceptual Framework of Predicting Academic Stress Among Malaysian Undergraduates: The Roles of Sleep Quality and Perceived Accessibility to Mental Health Support

MATERIALS AND METHODS

A quantitative study was conducted to investigate the significant influence of sleep quality and access to mental health support on academic stress levels among 220 undergraduates in Selangor, using a convenience sampling approach to recruit respondents. There are seven items adopted from the previous study, all of which used a five-point Likert scale: 1 = strongly disagree, 5 = strongly agree. Data collected and analyzed using regression analysis with SPSS. The report indicates that regression analysis of sleep quality and perceived accessibility of mental health support, on the academic stress among university students. The regression output was interpreted using the Model Summary, ANOVA table, and coefficients table. The Model Summary assessed the strength of the relationship between the variables by examining the R and R^2 values, which reflect the proportion of variance in academic stress explained by the independent variables combined. A significant p-value in the ANOVA results indicates that the regression model is appropriate and that at least one independent variable significantly affects academic stress.The demographic characteristics of the study sample are as follows: by age group, respondents aged 18-20 accounted for 28.6%, those aged 21-23 accounted for 57.3%, and those aged 24-26 accounted for 14.1%; by gender, 40% of respondents were male and 60% were female; by semester distribution, fifth-semester respondents made up 42.7%, third-semester respondents 31.4%, and fourth-semester respondents 25.9%; by CGPA distribution, 50% of respondents had a CGPA of 3.00-3.49, 49.5% had a CGPA of 3.50-4.00, and 0.5% had a CGPA of 2.50-2.99.

Table 1 Demographic Analysis

Classification		Frequency (n)	Percentage (%)
Age	18-20	63	28.6
	21-23	126	57.3
	24-26	31	14.1
Gender	Male	88	40
	Female	132	60
Semester	Semester 3	69	31.4
	Semester 4	57	25.9
	Semester 5	94	42.7
Current CGPA	Below 2.00	0	0
	2.00 - 2.49	0	0
	2.50 - 2.99	1	0.5
	3.00 - 3.49	110	50
	3.50 - 4.00	109	49.5

RESULT

Reliability Assessment

Reliability refers to an instrument that is used to ensure that the data and results that are obtained for a study are accurate and, therefore, provide consistent results. The accuracy and consistency measures, as shown in Table 2, are to the extent that the measurements have no errors. This is important to achieve a result that is stable, dependable, and reliable while minimizing inaccuracies.

Table 2 Reliability Assessment

Variables	No of Items	Cronbach Alpha	Result
Sleep Quality	7	0.863	Highly Internal Consistency
Perceived accessibility mental health support	7	0.955	Good
Academic Stress	7	0.914	Good

Correlation Analysis

A correlation analysis, as shown in Table 3, was conducted to assess the linear relationship between the independent and dependent variables. From Table 3 below, the sleep quality indicates a strong positive relationship with academic stress ($r = 0.655$, $p < 0.05$), and the p-value less than 0.05 indicates a significant relationship with academic stress. In contrast, the perceived accessibility of mental health support was found to have a negative but insignificant effect on academic stress ($r = -0.09$, $p > 0.05$).

Table 3 Correlation Analysis

Variables	Coefficient (r)	P-Value	Result
Sleep Quality- Academic Stress	0.655	<0.05	Positive, strong, and significant relationship
Perceived accessibility of mental health support- Academic Stress	-0.009	>0.05	Negative, weak, and insignificant relationship

Regression Analysis

Table 4 presents the coefficients, which provide insights into the contribution of each independent variable through unstandardized and standardized beta coefficients, t-values, and significance (p-values). The standardized beta values were particularly important for identifying the strongest predictor among the three variables. Overall, the regression analysis clarified how sleep quality and mental health support collectively influence academic stress. It also helped researchers determine which variable has the greatest impact on academic stress among university students. The overall regression model was statistically significant $F(3, 216) = 54.329$, $p < 0.001$$), establishing that the independent variables collectively predict academic stress. The model yielded an $R^2 = 0.430$ (Adjusted $R^2 = 0.422$), indicating that 43.0% of the variance in academic stress is explained by the model, while the remaining 57.0% is attributable to unexamined external factors. As detailed in Table 4, Sleep Quality (measured as sleep disturbance) demonstrated a strong, statistically significant positive relationship with Academic Stress ($B = 0.681$, $t = 11.651$, $p < 0.001$), supporting H1. This indicates that greater sleep disruption significantly increases perceived academic stress. As suggested by Gardani et al. (2022), sleep disturbance directly impairs stress coping and heightens perceived distress among undergraduates.

In contrast, perceived accessibility of mental health support has been shown to have a negative relation with academic stress ($B = -0.029$, $t = -0.668$, $p = 0.505$). The relationship was not statistically significant; thus, H2 was not supported. These results suggest that the availability of mental health resources may not be the key to reducing academic stress in students. Further research should explore other potential variables that may influence this association and identify ways to reduce stress in the academic environment.

Table 4: Regression Analysis

Model	Unstandardize Coefficient		Standardized Coefficient	T	Sig. (p)
	Beta Value	Std Error	Beta		
Constant	1.357	0.249		5.455	<0.05
Sleep Quality	0.681	0.058	0.648	11.651	<0.05
Mental Health	-0.029	0.044	-0.042	-0.668	>0.05

Dependent Variable: Academic Stress

DISCUSSION

Colleges and universities currently commonly face the situation where various mental health issues hold back students' academic progress. Psychological difficulties, including burnout, anxiety, depression, and social isolation, weaken students' cognitive function, making it hard for them to focus on their academic tasks. Meanwhile, on-campus mental health support is insufficient, access to professional counselors is limited, and students lack formal support networks to turn to for help. The core goal of this study is to investigate whether

this lack of support exacerbates academic pressure. Mental health issues can also lead to behaviors such as skipping classes, submitting assignments late, and even missing deadlines. In contrast, access to mental health support is critical to safeguarding student well-being and improving academic performance.

Sleep is a vital part of life, especially for university students who often juggle numerous responsibilities. In Malaysia, many students face academic stress due to various factors, including sleep quality and mental health. The hectic university environment can create a whirlwind of challenges. When students are engaged in numerous activities, balancing studies with social life becomes increasingly difficult. The pressure to perform well academically can heighten stress, making it essential to understand how these factors interact and affect students' overall well-being. The relationship between sleep quality and stress is central to understanding how students cope with academic demands. Lack of sleep can significantly contribute to stress levels, making it harder for students to focus and retain information. Poor sleep can result from late-night study sessions, social gatherings, or excessive screen time, all of which are common among university students. As students experience sleep deprivation, their bodies react by increasing stress hormones, which leads to feelings of anxiety and irritability. A well-rested mind is crucial for effective learning and maintaining good mental health. Thus, prioritizing quality sleep is an essential strategy for students seeking to reduce academic stress.This empirical study demonstrates that sleep disruption is a major contributor to academic stress among Malaysian business undergraduates. The standardized beta coefficient (β=0.648) confirms that sleep quality is the dominant predictor of perceived academic stress within the regression model. These findings align with prior literature indicating that physiological fatigue impairs cognitive focus, emotional regulation, and academic coping strategies, thereby magnifying perceived workload strain (Aydin & Aydin, 2024; Gardani et al., 2022; Gunawan et al., 2026).

Conversely, mental health support exhibited a weak and statistically non-significant negative relationship with academic stress. While higher support correlates with slight reductions in stress, its non-significant predictive value suggests potential structural bottlenecks in campus support systems. As noted by Kashif et al. (2024) and Duraku et al. (2023), university students frequently experience barriers such as mental health stigma, low service awareness, or reluctance to seek formal counseling. Consequently, simply making support services available may be insufficient to alleviate day-to-day academic stress if students do not actively utilize these resources.Mental health plays a critical role in academic performance and overall student success. Many Malaysian university students struggle with issues such as anxiety or depression, which academic pressures can aggravate. When students feel overwhelmed, their motivation and ability to perform in their studies often diminish. Engaging in campus activities can help alleviate some of these mental health challenges, as participating in clubs and events provides support, community, and distraction from stressors. Nevertheless, for those already feeling mentally strained, the additional demands of involvement may increase their stress. Finding a balance between staying active on campus and managing one's mental health is essential for achieving academic success. Hence, understanding the connections between sleep quality and mental health is crucial for addressing academic stress among Malaysian university students. Prioritizing adequate sleep, seeking mental health support, and finding a healthy balance between social activities and academic responsibilities can help students manage stress effectively. Universities can play a significant role by raising awareness about these issues and providing resources to support students. By fostering an environment that values mental well-being and encourages healthy lifestyles, students can navigate their university years more successfully, ultimately leading to improved academic outcomes and a more enriching educational experience.

CONCLUSION

Colleges and universities currently commonly face the situation where various mental health issues hold back students' academic progress. Psychological difficulties, including burnout, anxiety, depression, and social isolation, weaken students' cognitive function, making it hard for them to focus on their academic tasks. Meanwhile, on-campus mental health support is insufficient, access to professional counselors is limited, and students lack formal support networks to turn to for help. The core goal of this study is to investigate whether this lack of quality sleep influences on academic pressure. Mental health issues can also lead to behaviors such as skipping classes, submitting assignments late, and even missing deadlines. In contrast, access to mental health support is critical to safeguarding student well-being and improving academic performance. This study

successfully achieved its preset core objective, which was to examine the impacts of two factors, sleep quality and mental health support campus, on college students' academic stress, providing important insights for the academic community to understand the links between student well-being, academic performance. This study finds that high-quality sleep serves as a support for students in managing their academic stress. Insufficient sleep impairs attention, cognitive function, and emotional stability, leaving students unable to adapt to their academic workload and, in turn, exposing them to greater academic stress and greater challenges in university life. Participation in campus activities, such as student associations and social communities, can provide students with social support, help them step away from persistent rumination on schoolwork, improve their time-management skills, and enrich their university experience.

However, students must balance the time they allocate to academics and extracurricular activities. Only by practicing effective time management can students avoid these extracurricular activities from adding additional stress. Campus mental health support is a core component of addressing academic stress among college students. If students can conveniently access relevant resources and counseling services, they can effectively alleviate stress and various related psychological problems. However, empirical findings from this study indicate that many current students either do not know how to seek help or are unwilling to do so. As a result, more effective communication strategies must be developed to improve students' awareness of and access to campus health services. If university authorities and students work together to overcome these barriers, this effort will not only reduce academic stress but also safeguard students' academic performance, physical health, and mental well-being, helping them have a positive and fulfilling college career.

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