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A PROPOSED CONCEPTUAL FRAMEWORK OF ACADEMIC PERFORMANCE: INTEGRATING SLEEP QUALITY, TIME MANAGEMENT, AND WORKLOAD FACTORS AMONG UITM PERLIS STUDENTS

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Abstract*: Academic performance serves as a pivotal indicator of educational quality and institutional success within higher learning institutions. This conceptual paper attempts to identify and analyze the variables that significantly influence academic achievement among students at Universiti Teknologi MARA (UiTM) Perlis. Specifically, it explores the interconnectedness of time management, sleep quality, academic workload, and stress management. Existing literature suggests that academic success is not merely a product of intellectual aptitude but is shaped by a student's capacity to regulate their schedules, maintain restorative sleep hygiene, and manage academic demands effectively. By synthesizing various theoretical perspectives and empirical findings from previous studies, this paper proposes a conceptual framework that emphasizes the importance of a holistic approach to student well-being. The discussion provides valuable insights for university administrators to develop targeted intervention programs, such as time management workshops and sleep awareness initiatives, aimed at ensuring sustainable academic achievements at UiTM Perlis.*

Keywords: *Academic Performance, Time Management, Sleep Quality, Study Habits, Academic Workload.*

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Introduction

Academic performance can be defined as the extent to which students achieve their short- or long-term educational objectives, commonly assessed through examination results and cumulative grade point average (CGPA) (Hailu et al., 2024). Beyond curriculum mastery, it also encompasses cognitive, behavioural, and motivational competencies (Issah et al., 2023). Globally, academic performance is considered a key indicator of personal achievement and the effectiveness of education systems (Pacheco et al., 2025). Previous research shows that in health science students, good academic performance rates ranged between 75% and 81% (Hailu et al., 2024), highlighting the importance of effective study behaviours, self-regulation, and time management as predictors of success (Masnan et al., 2024). In Malaysian higher education, performance is often evaluated through cumulative measures such as the Integrated Cumulative Grade Point Average (iCGPA), which also assesses knowledge application and problem-solving abilities (KPM | Inisiatif Utama, 2025).

Studies worldwide indicate that academic performance is influenced by a combination of behavioural, psychological, and environmental factors (Gómez et al., 2021). Research has shown that motivation, resilience, self-efficacy, and support systems are highly influential in student outcomes (Pacheco et al., 2025; Issah et al., 2023). Sleep quality, study routines, and time management also significantly affect learning efficiency and achievement (Masnan et al., 2024; Almojali et al., 2020; Khatib et al., 2022). In Malaysia, institutional support systems, formal learning schemes, and self-discipline have been identified as important predictors of student performance, with a significant portion of UiTM students achieving a CGPA between 3.00 and 4.00 (Masnan et al., 2024). However, despite these insights, challenges remain regarding employability, workload management, and the combined effect of these factors on academic outcomes (DOSM, 2022; Bakar et al., 2023).

Despite extensive research on academic performance, most studies examine variables individually, such as sleep, study habits, or resilience, with limited focus on their combined effects (Masnan et al., 2024; Pacheco et al., 2025). Moreover, the moderating effect of self-discipline on lifestyle behaviours and academic achievement has not been sufficiently explored (Issah et al., 2023). Cross-sectional designs commonly used in prior studies also limit conclusions about causal relationships (Pacheco et al., 2025). This study addresses these gaps by investigating the complex interactions of psychological factors (self-esteem, sense of purpose) and behavioural factors (class attendance, time management, sleep quality) in determining academic performance. Such a holistic approach provides a more comprehensive understanding of student success in the Malaysian higher education context (Masnan et al., 2024; Hailu et al., 2024).

In conclusion, this research emphasizes the importance of studying the interconnected effects of sleep quality, time management, study habits, self-discipline, and academic workload on UiTM Perlis students' academic performance. By understanding these relationships, the study aims to inform interventions, support programs, and institutional policies that can enhance student learning, engagement, and overall academic success (Issah et al., 2023; Pacheco et al., 2025). Investigating these factors together ensures a comprehensive exploration of what drives academic achievement and provides practical guidance for improving higher education outcomes.

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Literature Review

Academic Performance

Academic performance is the level at which students are expected to reach a desired learning result and is usually measured in terms of grade point average (GPA), examination results and general achievement in studies. Prior studies have defined academic performance in both terms of cumulative grade point averages (CGPAs), that encompasses both cognitive and non-cognitive traits (Ahmad et al., 2024) and final subject averages grades in secondary school learners (Ragusa et al., 2023). Similarly, Hailu et al. (2024) defined academic performance as a general measure of how the students perform in academic institutions. Empirical studies have assessed academic performance based on institutional records like GPA and examination scores received in student administration systems (Alyami et al., 2021) and self-reported cumulative average scores in point-based grading systems (Armand et al., 2021).

In addition, academic performance is the key product of educational establishments around the world (Ahmad et al., 2024) and is determined by a set of internal and external factors. Empirical research indicates that internal aspects such as motivation, personality, interest and psychological resilience are influenced by external socio-economic and environmental factors to determine academic performance (Alabdulkarem et al., 2021; Lopez et al., 2025). Falcon et al. (2023) assessed academic performance with the use of official math grades and Lopez et al. (2025) proved that the students with a positive response to academic stress are more likely to perform better. According to these empirical conceptualizations, academic performance is considered the dependent variable in the current study to investigate how various aspects of the student functioning impact academic performance.

Sleep Quality and Academic Performance

Empirical studies have consistently indicated that the quality of sleep has a very strong relationship with academic performance among students. In Malaysia, there is evidence that shows a positive correlation between sleep quality and academic achievement with higher quality of sleep relating to improved academic performance among different groups of the students, such as undergraduates, dental and nursing students (Rathakrishnan et al., 2021; Hashim et al.., 2023; Gomez et al., 2021). The same results were observed in global studies, which revealed that the students who have good sleep quality are more likely to perform better academically, especially when it comes to exams (Muro et al., 2023; Wongsurakiat, 2025; Anjum & Mushtaq, 2024).

However, other studies have provided mixed findings indicating that the correlation between sleep quality and academic performance can be caused by contextual and methodological factors. A study of medical students revealed that poor sleep did not have a significant correlation with GPA and even negative consequences on academic performance and well-being were reported (Khaled et al., 2025; Hassan et al., 2025). These differences can be affected by the cultural setting, research design and methodologies (Rathankrishnan et al., 2021; Khaled et al., 2025). According to the literature, the quality of sleep influences academic performance by means of cognitive, behavioural and psychological mechanisms (Rathankrishnan et al., 2021; Lo Martire et al., 2024; Lopez et al., 2025). Thus, the independent variable is the quality of sleep, and the dependent variable is academic performance (Ahmad et al., 2024; Falcon et al., 2023; Arora et al., 2022).

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Time Management and Academic Performance

Time management is a widely accepted significant predictor of performance both within organizations and in education because it affects planning, discipline and goal orientation (Rashid et al., 2020). Time management skills in the academic environment help students to prioritize tasks, organize their studies and be self-regulated, which play an important role in managing the demanding university tasks (Ibrahim et al., 2024). The existing literature places time management as one of the important behavioural resources that help the students to cope with academic demands and to maintain performance across time (Makiah & Nusron, 2025). Organizational studies theoretically justify this view by demonstrating that performance improves when management practices are structured to maintain better behavioural control and organization (Rashid et al., 2020).

Empirical studies consistently show a positive association between time management and academic performance among university students. The students who have better time management capabilities have higher cumulative grade point averages and achieve higher scores through systematic planning, having study routines and schedules (Ibrahim et al., 2024; Aufa et al., 2024). Further evidence shows that time management is a predictor of academic performance, both directly and indirectly via motivation and engagement, as a self-regulatory ability that improves the involvement in learning and academic performance (Fu et al., 2025; Makiah & Nusron, 2025). Even though most of the available literature is based on cross-sectional designs with limited mediating variables (Rashid et al., 2020), the general empirical studies confirm the independence of time management as an important independent variable in academic performance models in higher education research (Aufa et al., 2024; Fu et al., 2025; Ibrahim et al., 2024; Makiah & Nusron, 2025).

Study Habits and Academic Performance

According to experimental research, study habits are positively and significantly correlated with academic success in college students (Aljaffer et al., 2024; Safi, 2025; Helali et al., 2022; Kohansal et al., 2023). Other good study habits like constant revision and time management are sure to lead to high grade attainment in comparison to poor study habits (Helali et al., 2022). According to research results, students with appropriate studying habits are positively perceived about course content and hence enhance their performance in examinations and assignments (Jaffar et al., 2024). This implies that academic performance is directly associated with learning study behaviors that increase the efficiency of learning (Safi, 2025).

Empirical studies consistently indicate that study habits are positively and significantly related to academic performance among college students. Research findings show that effective study practices such as regular revision, good time management, reading before lectures, and taking notes contribute to better understanding of course content and higher achievement in examinations and assignments. These learning behaviours improve students' ability to retain information, support self-regulated learning, and help them overcome areas of weakness. Empirical evidence from different educational settings, including remote learning during the COVID-19 period, further confirms that students with strong study habits achieve better academic outcomes. Overall, empirical research concludes that study habits are a significant predictor of academic performance across various learning environments.

Academic Workload and Academic Performance

Workload has been widely recognized as a key determinant of academic performance in higher education. Excessive academic workload may overwhelm students, reduce available study time,

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and limit their ability to engage deeply with learning materials (Karma et al., 2021). A study by (Pascarella et al., 2020), when academic demands exceed students' coping capacity, performance outcomes may deteriorate due to fatigue, stress, and ineffective learning strategies (Kyndt et al., 2020).

Empirical evidence consistently supports the relationship between workload and academic performance. (Fu et al., 2025) found that prolonged exposure to high academic workload negatively affects academic performance through increased stress and maladaptive health behaviors (Waqar et al., 2021). This indicates that workload impacts performance both directly and indirectly via psychological and physiological pathways, reinforcing the need for balanced academic demands to sustain effective learning and performance outcomes (Fu et al., 2025).
Further insights into this relationship are provided by studies examining mechanisms. (Ahmad et al., 2021) revealed that workload influences performance indirectly through job satisfaction and career commitment, suggesting that motivational and attitudinal factors can buffer or intensify workload effects. Similarly, (Sulea et al., 2020) demonstrated that personality traits moderate the relationship between workload and performance, indicating that students with higher resilience or self-regulation are better able to maintain academic performance under heavy workload conditions (Friederike et al., 2022).

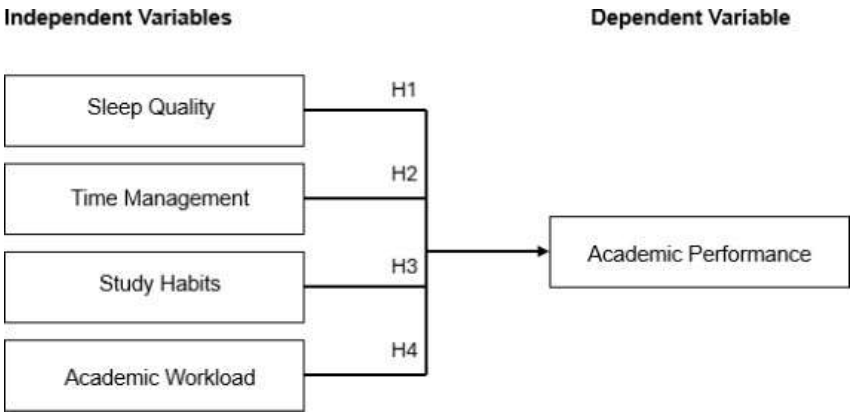

Figure 1: Conceptual Framework

The hypothesized model of academic performance is presented in Figure 1, illustrating the relationships between sleep quality, time management, study habits, and academic workload as independent variables, and academic performance as the dependent variable.

H1: There is a positive significant relationship between sleep quality and academic performance among UiTM students at Arau, Perlis.

H2: Time management has a significant relationship with academic performance among UiTM at Arau, Perlis

H3: There is a significant positive relationship between study habits and academic performance among UiTM students at Arau, Perlis.

H4: There is a significant positive relationship between academic workload and academic performance among UiTM students at Arau, Perlis.

Discussion

This study identifies and quantifies the critical variables influencing academic achievement among university students, specifically focusing on time management, sleep quality, academic workload, stress, and associated personal factors. By exploring these interconnected variables, this research fills a significant gap in understanding the holistic determinants of student success

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in higher education. It is widely established that academic performance serves as a primary indicator of both learning efficiency and institutional success. The findings demonstrate that effective time management, high-quality sleep, balanced academic workloads, and reduced stress levels are pivotal precursors to superior academic results.

In the context of higher education, both behavioral and psychological factors significantly dictate academic outcomes. Time management has emerged as a robust predictor of performance; students who prioritize tasks and demonstrate strong planning capabilities are more likely to exhibit higher engagement and improved results. Furthermore, time management enhances self-regulation, which directly facilitates academic persistence. This implies that universities should implement systematic facilitation programs, such as workshops or mentoring sessions, to empower students with these essential organizational skills. Another determinant of academic success is the quality of sleep. Poor sleep hygiene is intrinsically linked to decreased academic achievement, impaired concentration, and a decline in psychological well-being. Conversely, restorative sleep fosters mental resilience and cognitive health, which subsequently bolsters academic performance. Sleep-deprived students are more susceptible to stress and anxiety, creating a negative feedback loop that adversely impacts learning. Therefore, promoting sleep awareness and healthy habits is essential for maintaining academic excellence.

Furthermore, academic workload and stress play a decisive role in shaping student trajectories. Excessive workloads can exacerbate academic stress and diminish general well-being, often resulting in poor achievement. While academic stress can negatively impact student productivity, these implications can be mitigated through resilient coping strategies and institutional support. These findings suggest that higher learning institutions must evaluate academic requirements to ensure a balanced and sustainable learning environment. Finally, self-regulation and disciplined study habits are fundamental to academic success. Positive study behaviors and independent learning are closely associated with higher performance levels. Motivation and self-regulation act as critical mediating variables that strengthen the relationship between time management and achievement. This reinforces the need for institutions to cultivate an environment that promotes autonomy and self-directed learning.

Conclusion

In conclusion, this study affirms the complex interrelations between time management, sleep quality, academic workload, stress, and study habits in determining student success. While effective time management and quality sleep act as catalysts for performance, excessive workloads and high stress levels serve as significant impediments. To enhance academic outcomes, universities must adopt holistic approaches, including time management training, stress management programs, and sleep hygiene awareness. Future research should incorporate a broader range of psychological and environmental factors to develop an even more comprehensive understanding of the determinants of academic performance. Ultimately, addressing these key aspects is vital to ensuring sustainable academic achievement and the overall well-being of students in higher education.

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