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NAVIGATING TIME: THE INTERPLAY OF TIME MANAGEMENT, STRESS AND ACADEMIC PERFORMANCE AMONG UNIVERSITY STUDENTS

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ABSTRACT

Efficient time management, stress management, and academic success are crucial for a successful undergraduate experience. This study aimed to examine the relationships and influences of time management, including short-range planning, long-range planning, and time attitudes and stress on academic performance among undergraduate students. This quantitative-correlational research was carried out among university students in Universiti Putra Malaysia. A multi-stage random sampling method was used to get 406 participants who completed a questionnaire focused on the Time Management Questionnaire and the Depression, Anxiety and Stress Scale (DASS-42). The findings showed that short-range planning and time attitudes positively correlated with academic performance, while stress had a negative effect. Regression results indicated that time management was a stronger predictor than stress, accounting for 13.7% of the variance in academic performance. The study concludes that time management and stress significantly influence academic performance, with time management emerging as the stronger predictor, highlighting the need for resources and support services to help students manage their time and stress effectively. Furthermore, the results suggest that future research should explore other possible factors that could impact academic performance.

Keywords: productivity, mental health, undergraduate student, time management, stress, academic performance

1. Introduction

In the modern era, a climate of intense competition permeates various sectors, particularly in higher education institutions. Within these institutions, academic performance plays a critical role in determining the classification of degrees that students receive upon graduation. Furthermore, exceptional academic achievement is a vital prerequisite for graduates aiming to secure lucrative employment and progress in their careers (Bakar et al., 2013; Ezenwoke et al., 2020).

Poor academic performance has become arguably the most significant threat to higher education institutions today. It is closely linked with student attrition, which remains a scourge in institutions of all kinds and sizes. Unlike other barriers to higher education, such as institutional capacity or finance, attrition due to poor academic performance is both stealthy and difficult to control (Al-Zoubi & Younes, 2015; Napoles et al., 2023). The effects of academic underachievement extend far beyond the classroom walls. Academic achievement is highly linked to increased student retention, better job prospects, improved finances, and on-time graduation. A recent study found that academically successful students are more likely to have higher salaries, better job benefits, and more advancement possibilities (Hailu et al., 2024; Ezenwoke et al., 2020; Gilar-Corbi et al, 2020). Apart from this, these students also become more socially active, less anxious and depressed, have higher self-esteem and confidence, and are less likely to engage in substance abuse (Roshanisefat et al., 2021).

With the shifting dynamics of higher education, academic success is now a complex and multifaceted concept that goes beyond intelligence or knowledge in a subject area. Students' performance is affected by different academic and non-academic interconnected variables (Cao et al., 2024; Al-Zoubi & Younes, 2015). Thus, the pursuit to understand what explains academic success has been a growing concern among educators, policymakers, and institutions. Last but not least, the academic performance of students is not only a reflection of individual potential but also a very significant reflection of institutional effectiveness. It has long-term implications for the future of the students and the overall well-being of society, making it extremely critical to identify and address the determinants of academic performance (Pandey, 2023; Agormedah et al., 2021).

Malaysia witnessed a 4.7% increase in the number of graduates, reaching a historic high of 5.61 million, up from 5.36 million in 2020 (Department of Statistics Malaysia, 2020). Despite this encouraging trend, there has been a concerning rise in dropout rates among Malaysia's public higher education institutions. In 2022, 17,613 undergraduates did not complete their tertiary education, marking an increase of over 4,000 dropouts compared to 2020. This escalation can be attributed to various factors, including academic failures and health-related issues. Remarkably, a private university reported a dropout rate exceeding 14% within just six months in the same year (Ministry of Higher Education Malaysia, 2022).

The quality of higher education institutions is influenced by a multitude of factors, with student academic achievement ranking among the most critical. The quality of students' academic performance is contingent upon various academic and non-academic factors (Agormedah et al., 2021; Adams & Blair, 2019). Notably, time management represents a non-academic factor that significantly impacts academic performance. Time is a vital element of daily life as it can exert a pronounced influence on individual or group success, such as that of students (Wolters & Brady, 2021; Biwer et al., 2021).

García et al. (2004) have underscored the need for instructional proposals that can enhance

college students' time management behaviors. To this end, the authors have identified three subcomponents of time management that are critical for students to develop. These subcomponents encompass short-range planning, long-range planning, and attitudes toward time. Short-range planning is concerned with managing tasks and time over a period ranging from one day to one week. Long-range planning, on the other hand, aims at achieving academic objectives over the academic year. Attitudes towards time refer to how students perceive their control over time and their self-efficacy. It is noteworthy that adopting these time management practices can yield a positive impact on academic performance (Adams & Blair, 2019; Wolters & Brady, 2021). Napoles et al. (2023) and Pandey (2023) emphasize that effective time management is a crucial component of academic success, as poor time management can adversely impact academic performance.

Efficient time management is a critical factor for students to achieve optimal performance while operating within a restricted time frame. To accomplish this objective, students must set objectives, prioritise their tasks, and track the utilisation of their time. The acquisition of effective time management skills is instrumental in enhancing academic productivity and performance while mitigating the likelihood of depression, anxiety, and stress among students (Aeon et al., 2021; Ahmad et al., 2020; Roshanisefat et al., 2021). Moreover, effective time management skills contribute to the maintenance of a healthy work-life balance (Nesam, 2021). According to Vijay (2023), the prioritization of tasks enhances work and study satisfaction, leading to reduced inefficiencies, anxiety, and stress. Furthermore, Lozano-Rodríguez et al. (2020) posit that the allocation of time, particularly among university students, is essential in enhancing productivity and academic performance.

However, numerous students encounter difficulties in regulating both their academic and external lives (Adams & Blairs, 2019; Biwer et al., 2021), which often culminates in poor time management, inadequate sleep patterns, and heightened stress levels (Knowlden & Naher, 2023). Ineffective time management behaviors, such as improper allocation of time or last-minute cramming for examinations, are sources of stress and poor academic performance (Nesam, 2021; Knowlden & Naher, 2023; Bok et al., 2024) A study conducted by Rahimi and Hall (2021) unveiled that 46% of undergraduate students and 60% of graduate students habitually defer academic tasks despite the likelihood of unfavorable outcomes. Similarly, Theobald et al. (2021) noted that university students typically resort to cramming and "pull-nighters" before an academic task. Based on these findings, students must allocate their time effectively, meet deadlines, and prioritize their academic responsibilities (Wolters & Brady, 2021).

The growing complexity of higher education, which requires students to complete more academic programs in less time, contributes to stress levels. Between 12.9% and 21.6% of university students experience moderate to severe stress, with some top research universities reporting even higher rates of 37.7% in 2018 and 42.2% in 2020 (Nanthakumar, 2022). Stress can elicit both positive and negative emotions. While excessive stress can lead to negative emotions and affect academic performance, effective stress management can motivate individuals to be more proactive and achieve more.

Generally, time management and stress are known to have several positive effects on academic performance, with early evidence supporting this relationship. Azmah et al. (2022) found that higher scores in long-range planning were inversely related to academic performance among first-year medical students. Mariano et al. (2022) revealed a significant relationship between the level of time management and the academic performance of working students. Similar results have been observed regarding the relationship between time management and academic

performance among radiology technology students. Literature including undergraduate students revealed that stress affects academic performance, as lower stress shows better academic performance (Man et al., 2021; Iqbal et al., 2021; Elias et al., 2011).

Several studies conducted at Universiti Putra Malaysia (UPM) have shown that time management and stress are ongoing problems in medical or international students (Azmah et al., 2022; Dhubyan & Aminuddin, 2016; Elias et al., 2011). Elias et al.'s studies found that UPM undergraduate students experience high rates of stress that can negatively impact academic performance. Similarly, studies on the time management skills among foreign and medical students yielded inconclusive findings regarding their effects on academic performance (Azmah et al., 2022; Dhubyan & Aminuddin, 2016).

At the institutional level, UPM has consistently been shown to adhere to a spirit of academic excellence and the development of well-rounded, globally competitive graduates. Following its educational reforms and strategic plans, UPM has adopted the Outcome-Based Education (OBE) approach in a bid to improve learning outcomes and graduate employability. But despite this, in-house assessments still reflect concerns on students' soft skills, e.g., managing time and dealing with study pressure (Mohayidin et al., 2008). These concerns translate to the fact that despite structural efforts, UPM students' experience remains tainted by individual issues that influence learning outcomes.

Further, UPM aims to maintain its position as an international institution, there is a need to address these student-centered issues. The lack of research on the institutional level concerning the dynamics between time management, academic stress, and performance holds the university back from coming up with tailor-made programs of support. Existing research is not generalizable to the larger undergraduate population, future studies are needed to study the effects of time management and stress on overall academic performance in other fields in UPM (Azmah et al., 2022; Dhubyan & Aminuddin, 2016; Elias et al., 2011; Mohayidin et al., 2008). This study aims to complement that gap by investigating students from social science faculties, offering a focused but pertinent perspective that could be used as feedback to student support policies for similar academic settings at UPM.

In light of the growing concerns surrounding time management and academic stress among undergraduates at Universiti Putra Malaysia (UPM), this study aims to address an important gap in existing research. While prior studies at UPM have explored these variables either in isolation or within specific student groups, this research seeks to examine their combined effects across a broader range of academic fields. Therefore, this study aimed to examine the relationships and predictive influence of time management (including short-range planning, long-range planning, and time attitudes) and stress on academic performance among undergraduate students at Universiti Putra Malaysia. By examining these related factors, the research aims to provide valuable insights into how short-range planning, long-range planning, time attitudes, and stress levels influence students' academic performance. Understanding these direct relationships can help inform targeted interventions and support systems that promote effective time management and stress regulation strategies. Ultimately, the findings from this study have the potential to enhance students' well-being and academic success, contributing to the development of a more supportive and productive learning environment within the university.

2. Literature Review

2.1 Self-Regulated Learning (SRL) Theory

This research is guided by Zimmerman's (2000) Self-Regulated Learning (SRL) Theory, where

learning is conceived as a cycle of behavior regulation, cognition, and emotions that take place in three phases: forethought, performance, and self-reflection. The theory offers a comprehensive framework to understand how students manage both behavioral and emotional processes to achieve academic goals.

In this framework, time management is seen as a key behavioral strategy applied primarily in the forethought and performance phases, where students set plans, organize, and monitor their academic activities. To operationalize this construct, the study employs the Time Management model of Britton and Tesser (1991) that defines time management in terms of three interrelated components: short-range planning, long-range planning, and time attitudes. According to Britton and Tesser (1991), short-term planning involves setting and prioritizing activities or tasks for an immediate period, such as a day or a week, while long-term planning focuses on extended periods, such as half-yearly or yearly goals. Time attitudes encompass the belief that one is in control of one's own time, effectively managing it, and using it productively. Although these components originate outside of Zimmerman's Self-Regulated Learning (SRL) Theory, they are conceptually aligned with the SRL framework. Particularly within the forethought and performance phases, where goal-setting, planning, and time attitudes are key elements of effective self-regulation.

In addition, stress in the SRL model is also considered to be a motivation and affect factor emerging in the performance and self-reflection phases. Excessive stress may impede students' ability for self-regulation through compromising their concentration, emotional control, and persistence. Stress in the present study is measured by the Stress Subscale of the DASS-42 (Lovibond & Lovibond, 1995), which is a widely used and locally developed instrument.

In synthesizing these perspectives, the current research model includes the dynamic interplay between time-related behavior and emotional response in shaping academic performance.

2.2 Time Management and Academic Performance

Effective time management plays a crucial role in academic performance (Wolters & Brady, 2021; Biwer et al., 2021). It enables students to organize their daily activities efficiently, ensuring they complete their academic tasks on time. The correlation between time management and academic performance has been extensively studied, with a focus on diverse educational settings and student demographics. In their study conducted in Malaysia, Bakar et al. (2023) aimed to identify factors contributing to students' academic performance in higher learning institutions. The study included 169 students from various faculties at UiTM, utilizing online questionnaires. The findings highlighted learning ability, learning effort, and time management as key factors influencing academic achievement. Effective time management, as emphasized by Tesfaye (2019), plays a crucial role in helping students achieve high academic performance.

Azmah et al. (2022) investigated the relationship between learning styles, time management skills, and pharmacology academic performance during the COVID-19 pandemic with 86 first-year medical students at Universiti Putra Malaysia (UPM). The Time Management Questionnaire (TMQ) by Britton and Tesser (1991) was used for data collection. The study found no significant association between time attitude and short-term planning with pharmacology assessment scores. However, a low negative correlation was observed between long-range planning and pharmacology assessment results ($p = 0.001$), suggesting that better long-term planning did not guarantee improved pharmacology assessment outcomes.

Hamzah et al. (2014) explored the relationship between time management skills and academic performance among 150 final-year Bachelor of Business Administration students at Universiti Utara Malaysia (UUM). Data collection involved a questionnaire assessing personal academic

planning, control, and assignment handling. The study revealed a significant contribution of time management to students' academic performance (beta value = 0.515, p-value = 0.000).

In their study conducted in Indonesia, Pangastuti et al. (2024) aimed to identify stress levels and coping mechanisms among first-year medical students, specifically in BMS courses, involving 89 first-year medical students during online basic medical science courses. Data collection involved the Perceived Stress Scale (PSS-10) questionnaire, BMS course grades, and open-ended questions. The findings highlighted coping strategies centered around time management, study techniques, and prioritizing emotional and physical well-being. Students initially focus on effective time management and study strategies, prioritizing tasks, studying materials in advance, and utilizing proactive study methods to remain organized amidst their coursework.

Jane (2024) examined 3772 students enrolled in various board programs at NEUST Sumacab-Main Campus in the Philippines to explore the relationship between academic performance and various non-cognitive factors. The findings revealed a strong positive correlation between time management and academic performance ($r = .566$, $p = .002$). The findings of the study revealed a significant relationship between the students' level of time management and their academic performance. This suggests a strong positive link between effective time management practices, such as goal setting, task prioritization, and using tools like to-do lists, and improved academic performance among students. On the other hand, inadequate time management habits like excessive social media use, disorganized schedules, and unclear goals can impede academic success.

Mariano et al. (2022) conducted a study to examine the relationship between time management skills and academic performance among working students in an open high school program. The sample comprised 85 students from Mariano Peralta National High School. The researchers used the Effective Time Management Skills and Practices questionnaire to collect the data. The findings of the study revealed a significant relationship between the level of time management and the academic performance of the students. This relationship was found to be statistically significant at a 5% level of significance.

Abdulwahed et al. (2021) also conducted a study to investigate the impact of time management on the academic performance of 132 diagnostic radiology technology students at King Abdulaziz University (KAU) in Saudi Arabia. The researchers administered a self-designed questionnaire consisting of 22 questions to collect the data.

Specifically, the study found that 36.7% of students with a GPA of 4-4.5 strongly believed that their academic performance was negatively affected by poor planning (p-value = 0.005). Additionally, 69.2% of students with a GPA of 4.5-5 strongly agreed that they consistently met their deadlines (p-value = 0.005). Moreover, 66.3% of students with a GPA of 4.5-5 agreed or strongly agreed that they made use of to-do lists or calendars (p-value 0.047). These findings suggest that effective time management practices were associated with better academic performance among the students.

2.3 Stress and Academic Performance

Stress is a prevalent phenomenon among students, influencing their academic performance and overall well-being (Bibi et al., 2022). This literature review delves into multiple studies conducted in Malaysia, Peru, and Pakistan, examining the impact of stress on academic performance among higher institutions and undergraduate students. Through a comprehensive analysis of these studies, this review seeks to contribute valuable insights to the existing literature on stress and academic performance.

In their study conducted in Malaysia, Abdullah et al. (2022) aimed to assess the impact of fear,

stress, well-being, teacher and parents' support on undergraduates' academic performance during the COVID-19 pandemic. The researchers utilized the full version (14 items) of the Perceived Stress Scale to evaluate students' stress levels. The study indicated that stress and well-being variables, represented by p-values of -0.159 and 0.215, respectively, were significant. The findings suggested that an increase in stress levels would lead to a decrease in academic performance, while improved well-being would enhance students' learning efficiency. Additionally, the study confirmed previous research indicating that stress negatively affects students' well-being. Therefore, students must develop effective strategies to manage COVID-19-related stress to maintain a positive state of well-being.

Fatimah et al. (2020) examined the relationship between stress and academic performance among 284 university students from selected universities in Selangor. Data collection involved a closed-ended structured questionnaire with four sub-dimensions: campus life, financial stress, relationships, and body, mind, and feelings, totaling 26 items. The study's findings revealed negative and weak correlations between various stress sources (campus life, financial stress, and relationships) and academic performance. However, the correlation coefficients for body, mind, and feelings were not statistically significant, with p-values exceeding 0.05. This suggests a lack of significant relationship between these aspects (body, mind, and feelings) and academic performance.

Man et al. (2021) conducted a study on the relationship between sleep quality, stress, and academic performance among 384 undergraduate students in Malaysia. The researchers used the Perceived Stress Scale (PSS) by Cohen (1983) to measure stress levels. The findings indicated a non-significant, negligible, and negative correlation between stress and academic performance for the overall sample, with $r(382) = -.096$, $p = .060$.

Noman et al. (2021) investigated the effects of employment anxiety, financial anxiety, university support, and lecturer support on dropout intention and academic performance among 436 final-year undergraduate students in Malaysia. They explored how well-being and purpose in life mediated these relationships. The study found that purpose in life and well-being mediated between the ecological environment and students' academic performance and dropout intentions. Higher well-being and a stronger sense of purpose in life were associated with lower dropout rates and better academic performance, while lower levels of well-being and purpose in life were linked to higher dropout rates and academic struggles.

Kamarudin et al. (2009) studied the correlation between stress factors (health, social, and academic) and perceived stress levels at three intervals within a semester (beginning, middle, and end) among Pre-Diploma Science students at the University of Technology MARA (UiTM), Malaysia. The Perceived Stress Scale (PSS) and the Stress Factor Survey were used for assessment.

The study revealed a significant negative correlation between perceived stress levels at the end of the semester and students' academic performance, contrasting with the lack of significant correlation at the beginning and middle of the semester. The findings emphasized the importance of addressing stress factors, such as nutrition, sleep patterns, social engagements, and financial concerns, to support students' academic success throughout the semester.

In their study conducted in Indonesia, Pangastuti et al. (2024) aimed to identify stress levels and coping mechanisms among first-year medical students, specifically in BMS courses, involving 89 students during online basic medical science courses. Data collection included the Perceived Stress Scale (PSS-10) questionnaire, BMS course grades, and open-ended questions. The findings revealed a very weak and non-directional correlation coefficient of -0.032, with a significance value of 0.764, indicating that the relationship between BMS grades and stress

scores was not statistically significant.

Jamrus and Saman (2023) analyzed the impact of time management skills on academic achievement among 120 randomly selected Agriculture students at Universiti Teknologi Mara Malacca Campus. Data collection involved the Time Management Questionnaire (TMQ) by Britton and Tesser, revealing gender-based differences in time management skills within the sample.

Bibi et al. (2022) examined the relationship between students' stress levels and academic performance. They utilized the Student Stress Inventory (SSI) tool for data collection, finding a negative correlation between stress and academic performance (r = -2.36, p = .05***). This suggests that as stress levels rise, academic performance tends to decline, emphasizing the significant impact of stress on academic success.

Zavaleta et al. (2021) studied 150 engineering students from the University of Sciences and Humanities in Peru to investigate stress and academic performance. Data collection involved the SISCO questionnaire on stress and survey, revealing a minimal inverse correlation between stress and academic performance. The results showed that higher stress levels were slightly associated with lower academic performance, with 45.96% of participants achieving high academic performance.

Iqbal et al. (2021) conducted a study with 296 students from Islamia University Bahawalpur, Pakistan, examining the relationship between stress and educational performance. Data collection through a questionnaire assessing academic, psychological, and physical stress factors revealed a significant negative relationship between academic achievement and physical stress (r=.133*, p=0.022) and psychological stress (r=-.133*, p=0.022). The study concludes that physical and psychological stress negatively impact students' educational performance.

2.4 Academic Performance

In this study, academic performance is measured using self-reported GPA, as it remains the most widely accepted metric for assessing students' academic success (Abdulwahed et al., 2021; Kocsis & Molnár, 2024). While GPA may not fully capture academic engagement or learning effectiveness, it is frequently used in studies on time management and stress, allowing for comparability with previous research (Bakar et al., 2023; Jane, 2024).

This would also align with previous work by Man et al. (2021) and Iqbal et al. (2021), in which students in this survey would be asked to self-report their GPA on a cumulative basis. While self-reporting GPA has some biases, the literature has demonstrated that students self-report grades relatively accurately under conditions of anonymity (Kuncel et al., 2005).

2.5 Research Model

In this study, the researcher focused on examining the impact of time management (including its sub-components: short-range planning, time attitudes, and long-range planning) and stress levels on the academic performance of undergraduate students at Universiti Putra Malaysia. Figure 1 illustrates the research model, with each one-way arrow representing a hypothesized direct relationship between an independent variable and the dependent variable.

The study first aimed to investigate the overall relationship between time management and academic performance (Ho_1), followed by an analysis of its three sub-dimensions to examine whether short-range planning ($Ho_{1.1}$), time attitudes ($Ho_{1.2}$), and long-range planning ($Ho_{1.3}$) individually contribute to students' academic performance. In addition, the study tested the

relationship between stress levels and academic performance (Ho_2). Finally, the research also explored whether the combined influence of time management and stress level significantly affects academic performance (Ho_3).

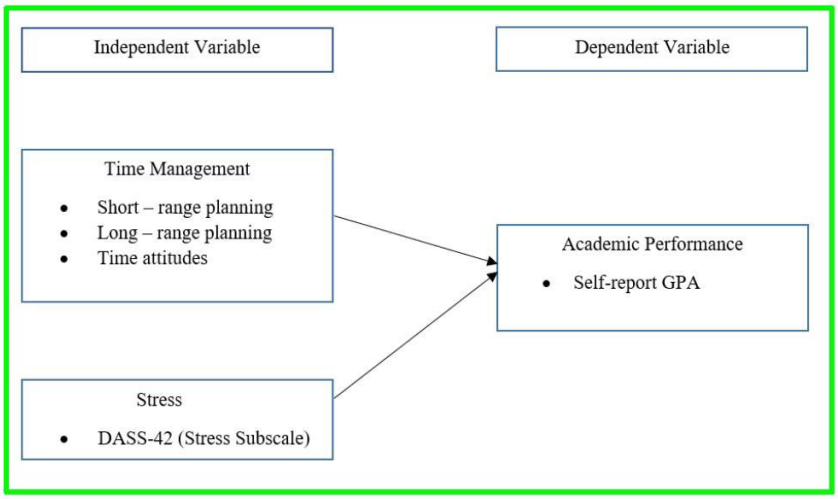

Figure 1: Research Model of the Study

The research model is guided by past literature and theoretical insights, particularly Zimmerman's Self-Regulated Learning (SRL) Theory, which highlights the importance of behavioral and emotional self-regulation in achieving academic success. Past literature has extensively examined the relationship between time management and academic performance (Mariano et al., 2022; Bakar et al., 2023; Jane, 2024), as well as between stress and academic performance (Fatimah et al., 2020; Abdullah et al., 2022; Iqbal et al.,2021). However, these variables have largely been studied independently. To address this gap, the study formulates the following null hypotheses:

Table 1: Hypotheses

Ho1	There is no significant relationship between time management and academic performance among undergraduate students at Universiti Putra Malaysia.
Ho1.1	There is no significant relationship between short – range planning and academic performance among undergraduate students at Universiti Putra Malaysia.
Ho1.2	There is no significant relationship between time attitudes and academic performance among undergraduate students at Universiti Putra Malaysia.
Ho1.3	There is no significant relationship between long – range planning and academic performance among undergraduate students at Universiti Putra Malaysia.
Ho2	There is no significant relationship between stress and academic performance among undergraduate students at Universiti Putra Malaysia.
Ho3	There is no significant influence of time management and stress on academic performance among undergraduate students at Universiti Putra Malaysia.

This study employed instruments commonly utilized in higher education research to measure students' time management, stress level, and academic performance. The Time Management Questionnaire (TMQ), developed by Britton and Tesser (1991), was employed to assess students' engagement in short-range planning, long-range planning, and time attitudes, which has been previously applied in Malaysian university settings research and has shown relevance and applicability in that context (Hamzah et al., 2014; Jamrus & Saman, 2021; Azmah et al., 2022). To measure stress, the study utilized the Stress Subscale of the Depression, Anxiety and Stress Scale (DASS-42) by Lovibond and Lovibond (1995). The DASS-42 has been validated

for use in Malaysia, with studies confirming its psychometric adequacy within the local educational setting **(Fatimah et al., 2020; Man et al., 2021; Helmi & Aun, 2023)**. These instruments were selected due to their theoretical grounding, empirical validity, and suitability for the Malaysian student population. Academic performance was assessed using self-reported cumulative GPA, a widely used measure in **similar studies** on student academic performance (Man et al., 2021; Bakar et al., 2023; Jane, 2024). The table below presents the measurement instruments for each variable.

Table 2: Summary of Variables and Instruments

Variable	Type	Definition	Measurement Instrument
Time Management	Independent variable	The degree to which students engage in short-range planning, long-range planning, and time attitude.	Time Management Questionnaire (TMQ) (Britton & Tesser, 1991)
Stress	Independent variable	The extent to which students experience stress in their day-to-day lives	14 stress subscales in the Depression Anxiety and Stress Scale (DASS-42) (Lovibond & Lovibond, 1995)
Academic Performance	Dependent variable	Result obtained by students after sitting the final exam	Self-reported cumulative GPA

3. Materials and Methods

3.1 Study Design

The research utilizes a quantitative method. This study employs a combination of descriptive and correlational research designs. The descriptive design enables the researchers to describe the current state of time management, stress, and academic performance among undergraduate students. The correlational design aims to establish the relationship between independent variables, such as time management and stress, and the dependent variable, such as academic performance, among undergraduate students.

Time management was assessed using the Time Management Questionnaire (TMQ) by Britton & Tesser (1991); stress was measured using 14 items from the Depression Anxiety and Stress Scale (DASS-42) by Lovibond & Lovibond (1995); and academic performance was measured using self-reported GPA. Descriptive statistics, Spearman correlation analysis, and multiple regression analysis were used to identify the scale of time management, stress, and academic performance; to identify the relationships among these variables; and to identify their influence on academic performance.

3.2 Sample Size

A comprehensive, multi-stage random sampling method was used to obtain the data. In the first stage, a selection box was created listing all the public and private universities in the Central Zone of Peninsular Malaysia based on information from the Malaysian Ministry of Higher Education's official online directory. A random number generator then selected Universiti Putra Malaysia from this box to ensure geographic representation. In the second stage, three faculties of Universiti Putra Malaysia and five degree programs from these faculties were selected. The result sample included a diverse range of academic disciplines and course structures, including programs with both theoretical and practical components. In the final stage, student lists were obtained from each selected program. Using a random number generator, approximately 100

full-time undergraduate students were selected from each list based on inclusion and exclusion criteria. The sample size for this study is 391 students, determined based on the Cochran (1963) formula to ensure proportional representation across faculties. The table below presents the distribution of selected students across faculties and undergraduate programs.

Table 3: Distribution of Selected Students

Faculty	Program	Number of Student
Faculty of Educational Studies	Bachelor of Education in Agricultural Science with Honors	31
	Bachelor of Education in Home Science with Honors	31
	Bachelor of Education Physical Education with Honors	31
	Bachelor of Education in Guidance and Counselling with Honors	31
	Bachelor of Counselling with Honors	31
Faculty of Forestry and Environment	Bachelor of Forestry Science with Honors	30
	Bachelor of Wood Science and Technology with Honors	30
	Bachelor of Parks and Recreation Science with Honors	30
	Bachelor of Environmental Management with Honors	30
	Bachelor of Environmental Science and Technology with Honors	30
Faculty of Food Science and Technology	Bachelor of Science (Food Service Management) with Honors	22
	Bachelor of Food Science and Technology with Honors	22
	Bachelor of Science (Food Studies) with Honors	22
	Bachelor of Science in Food Manufacturing Operations with Honors	22

Participation was voluntary, and all students provided informed consent before data collection. The study received ethical approval from the Ethics Committee for Research Involving Human Subjects of Universiti Putra Malaysia (JKEUPM) and all the Faculties Dean for data collection, ensuring confidentiality and anonymity in data handling.

Inclusion Criteria

1. Full-time undergraduate students enrolled in the selected faculties.
2. Registered in one of the four-year degree programs under the selected faculties, which include coursework, assessments, and practical components.
3. In Year 1 to Year 4 of study during the data collection period.

Exclusion Criteria

1. Postgraduate, diploma, foundation, or certificate-level students.
2. Students on academic leave, suspension, or with deferred enrollment.
3. Exchange or short-term mobility students not fully enrolled in UPM's degree programs.

3.3 Assumptions of the Study

Several essential assumptions guide this study to ensure the validity and reliability of its findings. A pilot study was conducted to confirm the clarity and appropriateness of the research instrument for the target population. It is assumed that respondents who provided complete responses did so honestly and understood the questionnaire items. The instruments used are

assumed to validly and reliably measure the constructs of time management, stress, and academic performance. The conceptual framework assumes that the relationships among these variables reflect actual patterns among university students. Lastly, the use of multi-stage random sampling is assumed to provide a sample that is reasonably representative of the general university student population within the selected institution.

3.5 Data Collection

During the period of data collection, a questionnaire comprising 32 questions was administered to participants to study their time management and stress levels. The questionnaire was distributed online to participants through Google Forms. The Google Forms were shared individually by email to the randomly selected students based on inclusion and exclusion criteria through their official university email addresses. The data was verified through response cross-checked with the respective faculty of the student's GPA information and excluding incomplete entries. The questionnaire was divided into three sections, namely demographic data, time management, and stress. The time management section was an amalgamation of the Time Management Questionnaire (TMQ) and Depression, Anxiety and Stress (DASS-42). The TMQ evaluated three crucial aspects of time management, including time attitude, short-range planning, and long-range planning. Short-range planning comprised seven questions, long-range planning included five questions and time attitudes encompassed six questions. Each item was scored on a 5-point Likert scale, ranging from ‘never’ (1) to ‘always’ (5). To calculate the total score for general time management, four questions (numbers 8, 10, 12, and 15) were reverse-coded. The resulting total score ranged from 18 (lowest) to 90 (highest), with higher values indicating better time management practices, as suggested by Britton and Tesser (Ahmad et al., 2020). The interpretation of the score is as follows:

Table 4: Interpretation Scores of TMQ

Total score	Levels of Time Management Skills
7 – 35	Short-range planning
5 – 25	Long-range planning
6 – 30	Time attitudes

The DASS–42 consists of 42 self-report items aimed at assessing negative emotional symptoms related to depression, anxiety, and stress. In this study, only the stress subscale is measured, which comprises 14 questions (questions 1, 6, 8, 11, 12, 14, 18, 22, 27, 29, 32, 33, 35, and 39). Participants rate their responses on a 4-point Likert scale, ranging from ‘did not apply to me at all’ (0) to ‘applied to me very much, or most of the time’ (3). The total score for the stress subscale ranges from 0 (lowest) to 42 (highest), indicating the severity of stress symptoms experienced by each individual. The interpretation of the score is as follows:

Table 5: Interpretation scores of DASS-42

Scale	Scores	Level of Stress
Stress	0 - 14	Normal
	15 - 18	Mild
	19 - 25	Moderate
	26 - 33	Severe
	34+	Extremely severe

The academic performance of undergraduate students was assessed based on the results obtained by undergraduate students in Universiti Putra Malaysia after sitting the final exam of the following semester, as measured by self-reported GPA. The classification of GPA ranking in Universiti Putra Malaysia is as follows:

Table 6: Classification of GPA Ranking

GPA	Classification
3.750 – 4.000	First Class Honors
3.000 – 3.749	Second Class Upper Honors
2.250 – 2.999	Second Class Lower Honors
2.000 – 2.249	Third Class Honors

3.6 Data Analysis

The study utilizes a blend of descriptive and inferential statistical analyses to achieve the research objectives and gain comprehensive insights. Descriptive analysis is employed to portray the current status of time management, stress levels, and academic performance among undergraduate students. These analyses address Research Objective 1 by providing a clear overview of the key variables under study. Descriptive analyses were not the focus of the analysis, they are indirectly applicable because aspects such as level of study or course structure may influence students' time-prioritizing or stress-handling. These potential influences are further indicated in the discussion section and are suggested as future research directions.

Correlational analysis aims to establish the relationships between independent variables such as time management and stress and the dependent variable, academic performance, among undergraduate students. Spearman's method, a non-parametric approach, is used to evaluate the correlation among time management, stress, and academic performance, effectively handling non-normally distributed data. A significance level of 0.01 is adopted to maintain stringent statistical rigour.

Multiple regression analysis aims to examine whether time management and stress significantly predicted academic performance among undergraduate students. Prior to the analysis, assumptions of normality, linearity, multicollinearity, and homoscedasticity were checked and met.

Table 7 delineates the various analyses utilised, encompassing mean, median, and mode for descriptive statistics. Meanwhile, Spearman's rank-order correlation, multiple regression, hierarchical regression, and factor analysis are used for inferential statistics, along with bootstrapping for robustness checks. These combined methodologies provide a comprehensive and multifaceted understanding of the interplay among time management, stress, and academic performance among undergraduate students.

Table 7: Types of Analyses

No	Research Objectives	Statistics Analysis
1	To identify the scale of time management (short – range planning, long – range planning, time attitudes) and stress among undergraduate students at Universiti Putra Malaysia.	Descriptive statistics: Mean, standard deviation, percentage, frequency, and in – max
2	To identify the relationship between time management (short – range planning, time attitudes, long – range planning) and academic performance among undergraduate students at Universiti Putra Malaysia.	Inferential statistic: Spearman's rank correlation
3	To identify the relationship between stress and academic performance among undergraduate students at Universiti Putra Malaysia.	Inferential statistic: Spearman's rank correlation
4	To identify the influence of time management and stress on academic performance among undergraduate students at Universiti Putra Malaysia.	Inferential statistic: Multiple regression

3.7 Reliability

The TMQ general and time management subscale has shown psychometric adequacy, with an accepted coefficient alpha of .77 (Ozsoy, 2014). In the current study, the obtained coefficient alphas were .73 for the pilot study and .75 for the main study.

The DASS general and stress subscale also exhibit considerable psychometric adequacy, with a high coefficient alpha of .90 (BetterWorld Healthcare, 2020). In the present study, the obtained coefficient alphas were .87 for the pilot study and .85 for the main study.

In the present study, the variables' Cronbach's Alpha values ranged between .75 and .87. Regarding item appropriateness, all respondents concurred that the items are appropriate, and no modifications are necessary. In summary, the TMQ demonstrates acceptable reliability, while the DASS–42 shows high reliability, indicating robust internal consistency. The instrument was also deemed suitable for implementation among undergraduate students.

The Time Quality Management (TQM) scale has demonstrated a commendable level of internal reliability, with a Cronbach's alpha of 0.71 [29]. A study by Ozsoy [30] further validates the TQM scale as a reliable measure of time management skills, citing a Cronbach's alpha of .77. On the other hand, the DASS-42 scale, used for measuring Depression, Anxiety, and Stress, has shown high internal consistency.

The Cronbach's alpha scores for the Depression, Anxiety, and Stress scales are 0.91, 0.84, and 0.90, respectively. Another study confirmed significant construct validity for the DASS-42, with acceptable correlation measures of 0.799, 0.822, and 0.818 for the depression, anxiety, and stress subscales, respectively ($p<0.05$).

In the current study, the questionnaires used for TMQ and DASS–42 demonstrated that the overall reliability of TMQ is r=.736, and the overall reliability of DASS–42 is r=.830. In terms of item appropriateness, all respondents agreed that the items are suitable and no amendments are required. In conclusion, the TMQ shows acceptable reliability, while the DASS–42 exhibits high reliability, indicating strong internal consistency. The instrument was also deemed suitable for use among undergraduate students.

4. Result

4.1 Distribution of Gender, Years of Study, Faculty, and Program

The figures below show the breakdown of demographic characteristics among 406 students. Table 8 presents a cross-tabulation, showcasing the distribution of students based on their gender and years of study. The data reveal that in Year 1, there were 49 male and 25 female students. In Year 2, 57 males and 60 female students. Year 3, 26 males and 77 female students. In Year 4, 31 male and 81 female students. Table 5 also illustrates the number of students in each faculty. The Faculty of Educational Studies has the highest number of students (34.7%), followed by the Faculty of Forestry and Environment (33.5%) and the Faculty of Food Science and Technology (31.8%).

Lastly, it highlights the programs with the highest student enrollment. The Bachelor of Forestry Science with Honors and the Bachelor of Food Science and Technology with Honors have the highest enrollment (7.6%), followed by the Bachelor of Education in Agricultural Science with Honors, the Bachelor of Wood Science and Technology with Honors, the Bachelor of Environmental Science and Technology with Honors, and the Bachelor of Science in Food

Manufacturing Operations with Honors (6.9%). Additionally, the Bachelor of Education in Home Science with Honors and the Bachelor of Environmental Management with Honors also have significant enrollment (6.7%).

Table 8: The Demographic Data

Categories		Frequency	Percentage
Years of Study			
Year 1	Male	49	66.22
	Female	25	33.78
Year 2	Male	57	48.72
	Female	60	51.28
Year 3	Male	26	25.24
	Female	77	74.76
Year 4	Male	31	27.68
	Female	81	72.32
Faculty			
Faculty of Educational Studies		141	34.7
Faculty of Forestry and Environment		136	33.5
Faculty of Food Science and Technology		129	31.8
Faculty of Educational Studies		141	34.7
Undergraduate Program			
Bach. of Education in Agricultural Science with Honors		28	6.9
Bach. of Education in Home Science with Honors		27	6.7
Bach. of Education Physical Education with Honors		29	7.1
Bach. of Education in Guidance and Counselling with Honors		30	7.4
Bach. of Counselling with Honors		29	7.1
Bach. of Forestry Science with Honors		31	7.6
Bach. of Wood Science and Technology with Honors		28	6.9
Bach. of Parks and Recreation Science with Honors		30	7.4
Bach. of Environmental Management with Honors		27	6.7
Bach. of Environmental Science and Technology with Honors		28	6.9
Bach. of Science (Food Service Management) with Honors		30	7.4
Bach. of Food Science and Technology with Honors		31	7.6
Bach. of Science (Food Studies) with Honors		30	7.4

4.2 Scale of Time Management (short–range planning, time attitudes, long-range planning) and Stress

Table 6. presents the distribution of key study variables. The mean score for long-range planning was the highest (M=3.17, SD=0.38), followed by short-range planning (M=1.03, SD=0.51) and time attitudes (M=3.14, SD=0.41). These findings suggest that respondents generally used long-range planning more frequently than the other two practices. Regarding stress, the scales are categorized as normal, mild, moderate, severe, and extremely severe. Based on Table 6, the findings indicate that the majority of respondents (N=104, 25.6%, M=2.87, SD=1.40) are categorized with a mild level of stress.

Table 9: Distribution of Key Study Variables

Variables	N	%	Mean	SD
Time Management				
Short – range planning			1.03	.51
Time Attitudes			3.14	.41
Long – range planning			3.17	.38
Stress				
Normal	84	20.7		
Mild	104	25.6		
Moderate	68	16.7	2.87	1.400
Severe	80	19.7		
Extremely severe	70	17.2		

4.3 Relationship between Time Management (short–range planning, time attitudes, long-range planning), Stress and Academic Performance

A noteworthy relationship was discovered between short-range planning, time attitudes, long-

range planning, stress, and academic performance. There was a significant, weak, positive correlation found between short-range planning and academic performance. (r=.175, n=406, p<.01). There was also a weak, positive correlation found between time attitudes and academic performance (r=.247, n=406, p<.01). On the other hand, a non-significant negative relationship was observed between long-range planning and academic performance (r=-0.80, n=406, p<0.01). Lastly, a significant, weak, positive correlation was found between stress and academic performance (r=.136, n=406, p<0.01).

Table 10: Relationship between Time Management, Stress and Academic Performance

	Short–range planning	Time attitudes	Long–range planning	Stress	Academic performance
Short – range planning	-				.175**
Time attitudes		-			.247**
Long – range planning			-		-.080
Stress				-	.136**
Academic performance	<.001	<.001	<.001	.006	-

4.4 Influence of Time Management and Stress on Academic Performance

Based on the results, the overall model was statistically significant, $F(2, 403) = 31.937$, $p < .001$, and accounted for approximately 13.7% of the variance in academic performance ($R^2 = .137$). There was a significant influence of time management on academic performance ($\beta = .328$, $p < .001$), indicating that students with better time management abilities tended to achieve higher GPA scores. Stress also had a significant influence on academic performance ($\beta = .118$, $p = .013$), although its contribution was smaller compared to that of time management.

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.370[a]	.137	.133	.43955

a. Predictors: (Constant), MEAN_S, MEAN_TMQ

Table 12: Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.341	2	6.170	31.937	.000[b]
	Residual	77.862	403	.193		
	Total	90.202	405			

a. Dependent Variable: GPA
b. Predictors: (Constant), MEAN_S, MEAN_TMQ

Table 13: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.599	.235		6.799	.000		
	MEAN_TMQ	.515	.074	.328	6.934	.000	.959	1.042
	MEAN_S	.119	.048	.118	2.495	.013	.959	1.042

a. Dependent Variable: GPA

5. Discussion

5.1 The relationship between Time Management and Academic Performance

The relationship between time management and academic performance is multifaceted and necessitates a thorough examination. This study among undergraduate students at Universiti Putra Malaysia offers deeper insights compared to previous research. Notably, while previous studies often highlight the importance of long-range planning, our findings draw greater attention to the effectiveness of short-range planning and time attitudes in predicting academic success. These dimensions showed significant positive relationships with GPA, aligning with findings by Agormedah et al. (2021), whereas long-range planning did not yield a statistically significant correlation.

Short-range planning and time attitudes represent core elements of the forethought and performance phases in Self-Regulated Learning (SRL) Theory. These dimensions involve setting immediate goals, organizing tasks, and managing motivation, which are key strategies that enable students to engage with learning material and sustain academic performance. Our findings suggest that students who are able to regulate their time effectively in the short term are more likely to meet academic demands successfully.

In contrast, long-range planning, while conceptually linked to the forethought phase, did not significantly correlate with academic performance ($r_s = –.080$, $p = .109$). This finding diverges from Azmah et al. (2022), whose study of first-year medical students revealed a significant positive relationship between long-range planning and academic performances. This contrast may reflect differences in academic context. Medical programs, particularly in the first year, often follow highly structured, content-intensive pathways that reward long-term planning. In comparison, the more varied course structures and deadlines encountered by the broader undergraduate population in our study may lead students to rely more heavily on short-term task management strategies.

Our descriptive data also provided valuable contextual insight. Students across diverse faculties, including Educational Studies, Forestry and Environment, and Food Science and Technology might face differing academic demands. However, the importance of time management emerged as a universal factor in academic success, suggesting that while the form of time management may vary, its value remains consistent across disciplines (Adams et al., 2019). Similarly, across years of study, from Year One to Year Four, the role of time management remained relevant. Although the academic landscape evolves as students' progress through university, their continued reliance on short-term planning and time regulation highlights the enduring importance of these self-regulatory behaviors (Jane, 2024).

From an SRL perspective, these patterns may reflect how academic context shapes the regulation of learning strategies. While long-term planning is theoretically critical in the forethought phase, its impact may be less direct on short-term academic performance when compared to immediate strategies like time monitoring and daily task management. The lack of a robust association between long-range planning and GPA in this study may suggest that students have yet to fully operationalize long-term goals or that such goals are simply too distal to influence current academic performance. Future research could explore how academic program type, year of study, and learning environments moderate the relationship between specific time management dimensions and various academic outcomes—especially in relation to long-term goal pursuit.

Finally, the discrepancies between our findings and prior research may be influenced by contextual variables such as disciplinary expectations, course load intensity, and academic year. Fields like medicine may necessitate more structured, long-term planning, while broader programs may require greater flexibility and adaptability in managing time (Mariano et al., 2022; Azmah et al., 2022). These differences underscore the importance of tailoring time management support and SRL-based interventions to students' academic contexts and individual learning needs.

5.2 The Relationship between Stress and Academic Performance

Regarding stress and its impact on academic performance, previous studies like Man et al. (2021) found a negative correlation, with higher levels of stress leading to lower academic performance among Malaysian undergraduate students. In contrast, our investigation uncovered a noteworthy relationship between stress and academic performance, indicating that mild stress might act as a motivating force, enhancing the performance in academics, as depicted in Iqbal et al. (2021). This underlines a contextualized approach to understanding how stress levels have an impact on academic success, considering differences in faculties, academic years, and individual coping mechanisms.

This could be due to the difference in workload between faculties, where our study focused on students from Educational Studies, Forestry and Environment, and Food Science and Technology, whose nature of coursework is more structured and practical-oriented, hence allowing students to manage stress better. By contrast, Man et al. (2021) probably researched students in the high-intensity fields of medicine, engineering, or law programs, where the level of stress is notably higher, hence impeding cognitive function and, as a result, their academic performance. Besides, post-pandemic learning adaptations may have impacted stress responses; for instance, students in our study may have benefited from more flexible academic structures, while in earlier studies, students faced more abrupt learning disruptions that could exacerbate the negative effects of stress.

Another possible cause of these discrepant findings could be due to differences in students' self-regulatory capacities, particularly their ability to apply effective learning strategies such as time management. According to Self-Regulated Learning (SRL) Theory, these behaviors are termed as proactive coping strategies through which the learners schedule, regulate, and change their academic performance as per inner and outer expectations (Zimmerman, 2002). Although our study did not measure coping strategies directly, it is possible that some students in our study effectively regulated their stress levels through structured time management, allowing them to obtain successful academic performance.

The findings corroborate the view that stress can affect academic performance, but its impact is mediated by individual variability in self-regulation and environmental factors. While excessive stress may undermine focus and disrupt study routines, a modest amount of academic stress can be a stimulus to action that encourages students to work more diligently on tasks and keep themselves in order. The moderately weak but actual relationship observed here may suggest that the majority of students have adjusted to academic pressure through institutional processes, for instance, how the classes are organized or through self-management techniques such as short-term planning and awareness of time.

This specificity highlights the dynamic interplay between cognitive and affective processes in the SRL model. It also suggests that future research will need to investigate how specific self-

regulated learning strategies, like emotional regulation, goal-setting, and strategic time management can act as protective buffers against the negative effects of stress on academic achievement, particularly in diverse academic disciplines and institutional settings.

5.3 The Influence of Time Management and Stress on Academic Performance

The regression analysis showed that time management and stress together predict academic performance, with the model accounting for 13.7% of the variance in GPA scores, $F(2, 403) = 31.937$, $p < .001$. Among the two predictors, time management was the more potent predictor ($\beta = .328$, $p < .001$), while stress had a weaker but significant effect ($\beta = .118$, $p = .013$). These findings emphasize the fact that while stress can have a negative influence on academic performance, its impact can be moderated by effective time management behavior which is a key component of Self-Regulated Learning (SRL).

Time management within SRL theory is a proactive self-regulatory approach situated within the forethought and performance phases that encompasses goal setting, scheduling, and tracking the execution of tasks. These behaviors allow students to stay organized, reduce procrastination, and manage workload. Time management may also serve as a buffer against stress by facilitating perceptions of control, and as such, contributing to emotional stability and academic persistence.

Although no statistical examination was conducted on demographic variables versus the regression model, descriptive data give insight. Most students reported moderate to high stress, particularly in senior years, yet most continued to perform well academically. The trend suggests that some students were possibly using time management as an SRL strategy to maintain performance despite stress. This finding would be consonant with SRL theory's emphasis on adaptive coping.

Additionally, students from various faculties, from strongly structured programs like Food Science and Technology to less restricted curricula in Educational Studies, demonstrated varied academic demands. Yet, across disciplines, the predictive validity of time management attests that self-regulation is advantageous across the board, regardless of course structure. This attests to the need for institutions to include SRL-focused skills development within academic support services, particularly those which address stress management, planning, and behavioral regulation.

Cumulatively, the results depict the intertwining of cognitive and emotional control in impacting academic outcomes. Although stress itself may be a threat to performance, the deployment of SRL strategies, particularly effective time management, can serve as a strong antidote, supporting student performance even in high-stress learning environments.

6. Implications

The divergent findings concerning time management and stress underscore the complexity of factors influencing academic performance among undergraduate students. Recognizing the nuanced interplay between time management, stress, and academic outcomes, educators and policymakers can implement targeted interventions to support students on their academic journey.

The research findings could be valuable in assisting academic institutions to conduct time management workshops as part of the orientation process, where students will be taught to

prioritize, set goals, and schedule to manage their coursework, deadlines, and personal commitments. Academic advisors and faculty members must also impress active time management strategies during the mentoring process so that students develop structured approaches to completing tasks efficiently. Further, universities can use different digital tools like time-trackers, guided study planners, and stress-monitoring platforms that will enable students to self-regulate their academic habits and mental well-being.

Besides academic support, mental health and counseling providers play a crucial role in fostering resilience to academic stress in students. Mental health and counseling providers can provide training on how to handle one's emotional issues with regard to academic pressure. It is worth noting that one could individually obtain a number of specific services by individual counseling, group therapy, or even peer mentorship provided through a professional counsellor. Early intervention programs can identify students at risk of burnout, ensuring they receive the necessary support before their academic performance is significantly impacted.

In conclusion, our study contributes to the growing body of literature on the intricate interplay between time management, stress, and academic performance among undergraduate students. By embracing the complexity of these relationships and tailoring interventions to meet the diverse needs of students, academic institutions, mental health and counselling providers play a crucial role in promoting success among students while improving mental health outcomes and overall long-term achievements in higher education (Mariano et al., 2022).

7. Limitation

This study acknowledges several limitations that could be addressed in future research. First, the reliance on self-reported questionnaire data may have introduced response bias, potentially affecting the accuracy of reported time management skills, stress levels, and academic achievement. Second, the sample was drawn from only three faculties at Universiti Putra Malaysia, limiting the generalizability of the findings to other institutions and student populations. Third, the study did not consider potential moderating variables such as coping mechanisms, personality traits, or support networks. Fourth, the cross-sectional design prevents the establishment of causal relationships. Future research could mitigate these limitations by employing a larger, more diverse sample, incorporating multiple data collection methods, and considering additional variables and longitudinal designs.

8. Recommendations

Despite the potential negative effects of these limitations, they offer valuable guidance for conducting future research more effectively. This study relied on self-reported data; therefore, future research could benefit from integrating objective measures of engagement, such as using applications for tracking time, conducting diary studies, or directly observing studying behaviors, in place of self-reported GPAs. Additionally, future studies could include participants from multiple universities, diverse academic disciplines, and various levels of study, including postgraduate students, to gain broader perspectives. This would also allow for comparisons of how time management and stress influence academic performance across different academic settings.

Furthermore, future research should explore the interaction between time management strategies and preferred coping styles to identify which combinations are most effective for enhancing

academic success. Longitudinal studies could also be conducted to examine the relationship between time management, stress, and academic performance over an extended period. By collecting data from the same group of participants over time, longitudinal research enables researchers to monitor changes and developments. For instance, data collection could begin at the start of participants' undergraduate studies, with regular follow-ups (e.g., every semester or academic year) until graduation, providing a more comprehensive understanding of how undergraduate students' time management practices, stress levels, and academic performance evolve.

9. Conclusion

The study shows a significant but weak correlation between time management (short–term planning, time setting, long-term planning), stress, and academic performance among students of Universiti Putra Malaysia. While these correlations are statistically significant, their low magnitude suggests that other factors may also significantly influence academic performance. The study suggests that in addition to stress levels and time management strategies, factors such as study habits, course content, personal motivation, and support networks can also influence academic performance. This highlights the complexity of academic performance and the need for further research to uncover other potential influencing factors. The study also highlights the importance of a comprehensive approach to academic support services. It recognizes that while stress management and time management are critical, they are only two of many factors that can influence a student's academic trajectory.

References

Adams, R. V., & Blair, E. (2019). Impact of time management behaviors on undergraduate engineering students' performance. *Sage Open, 9*(1), 2158244018824506.

Abdulwahed, A. A. A., Azhar, A., Binsaddik, A., & Bafaraj, S. M. (2021). *Impact of Time-Management on the Student's Academic Performance: A Cross-Sectional Study*. https://doi.org/10.4236/ce.2021.123033

Al-Zoubi, S. M., & Younes, M. a. B. (2015). Low academic achievement: causes and results. *Theory and Practice in Language Studies*, *5*(11), 2262. https://doi.org/10.17507/tpls.0511.09

Aeon, B., Faber, A., & Panaccio, A. (2021). Does time management work? A meta-analysis. *PloS one*, *16*(1), e0245066.

Agormedah, E. K., Britwum, F., Amoah, S. O., Acheampong, H. Y., Adjei, E., & Nyamekye, F. (2021). Assessment of time management practices and students' academic achievement: the moderating role of gender. *International Journal of Social Sciences & Educational Studies*, *8*(4), 171.

Ahmad, U. N. A., Gašević, D., Matcha, W., Jovanović, J., & Pardo, A. (2020). Analytics of time management strategies in a flipped classroom. *Journal of Computer Assisted Learning*, *36*(1), 70-88.

Azmah, S. Thani, S. M., Izah, N. A. R., & Masrudin, S. S. (2022). The Association Between Learning Styles, Time Management Skills and Pharmacology Academic Performance Among First Year Medical Students in Universiti Putra Malaysia (UPM) During the COVID-19 Pandemic. *Malaysian Journal of Medicine and Health Sciences*, *18*(14), 94-103.

Bakar, N. A., Yusop, H., Ali, N. M., & Bakar, N. F. A. (2023). Determinants of Students' Academic Performance in Higher Learning Institutions in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, *13*(2), 1496 – 1508.

Bhattacharya, R., Tipu, M. N. A., Sarker, B., & Durud, M. S. (2022). Exploring the Interrelation between Time Management and Academic Achievement among University Students. *Asian Research Journal of Arts & Social Sciences*, *17*(2), 28-37.

BetterWorld Healthcare. (2020). *Depression Anxiety Stress Scales – Long Form (DASS-42)*. BetterMind.

Biwer, F., Wiradhany, W., Hospers, H., & Bruin, D. A. (2021). Changes and adaptations: How university students self-regulate their online learning during the COVID-19 pandemic. *Frontiers in psychology*, *12*, 642593.

Bok, S., Shum, J., & Lee, M. (2024). Temporal Motivation Theory: Punctuality Is a Matter of Seconds. *Journal of Marketing Education*, 02734753241232564.

Cao, W., Mithra, S. G. S., & R, A. B. (2024). Unraveling the factors shaping academic success: A structural equation modeling approach for college students. *Heliyon*, *10*(4), e25775.

Centre for Corporate Strategy and Relations UPM (2023). *Facts and Figure 2023*.

Department of Statistics Malaysia. (2020). Retrieved from *Graduate Statistics 2021*.

Dhubyan, J. F., & Aminuddin, Y., (2016). Time management, self-esteem and academic performance of international students from Iraq in Universiti Putra Malaysia. *Australian Journal of Basic and Applied Sciences*, *10*(12), 369-373.

Elias, H., Ping, W. S., & Maria, C. A. (2011). Stress and Academic Achievement among Undergraduate Students in Universiti Putra Malaysia. *Social and Behavioral Sciences*, *29*, 646 – 655.

Ezenwoke, O. A., Efobi, U. R., Asaleye, A. J., & Felix, D. E. (2020). The determinants of undergraduate accounting students' early participation in professional examinations. *Cogent Education*, *7*(1), 1818411.

Fatimah, S. A., Norliana, A. S., & Rohaiza, M. I. (2020). Stress and Its Relationship with the Academic Performance of Higher Institution Students. *International Journal of Advanced Research in Education and Society*, *2*(1), 61-73.

García-Ros, R., Pérez-González, F., & Hinojosa, E. (2004). Assessing time management skills as an important aspect of student learning: The construction and evaluation of a time management scale with Spanish high school students. *School Psychology International*, *25*(2), 167-183.

Gilar-Corbi, R., Pozo-Rico, T., Castejón, J.-L., Sánchez, T., Sandoval-Palis, I., & Vidal, J. (2020). Academic Achievement and Failure in University Studies: Motivational and Emotional Factors. *Sustainability*, *12*(23), 9798. https://doi.org/10.3390/su12239798

Hailu, M., Abie, A., Mehari, M. G., Dagnaw, T. E., Worku, N. K., Esubalew, D., Limenh, L. W., Delie, A. M., Melese, M., & Fenta, E. T. (2024). Magnitude of academic performance and its associated factors among health science students at Eastern Ethiopia University's 2022. *BMC Medical Education*, *24*(1). https://doi.org/10.1186/s12909-024-06296-z

Helmi, S. N. B. R., & Aun, N. S. M. (2023). Preliminary Study: Time Management Skills and Stress Levels among Universiti Kebangsaan Malaysia Students. *International Journal of Academic Research in Progressive Education and Development*, *12*(3). https://doi.org/10.6007/ijarped/v12-i3/17903

Iqbal, S., Akram, M., & Mushtaq, I. (2021). *Relationship between Stress and Educational Performance of University Students: A Correlational Research Study. Review of Education Administration and Law*, *4*(4), 805-811.

Jamrus, F. N., & Saman, F. I. (2021). A quantitative exploration of time management skills and academic achievement: A case study of agriculture students in Universiti Teknologi Mara Cawangan Melaka. *AIP Conference Proceedings, 2347* (1). https://doi.org/10.1063/5.0051500

Knowlden, A. P., & Naher, S. (2023). Time Management Behavior Structural Equation Model Predicts Global Sleep Quality in Traditional Entry University Students. *American Journal of Health Education*, *54*(4), 265-274.

Kocsis, Á., & Molnár, G. (2024). Factors influencing academic performance and dropout rates in higher education. *Oxford Review of Education*, 1–19. https://doi.org/10.1080/03054985.2024.2316616

Kuncel, N., Crede, M., & Thomas, L. L. (2005). The Validity of Self-Reported Grade Point Averages, Class Ranks, and Test Scores: A Meta-Analysis and Review of the Literature. Review of Educational Research, 75(1), 63-82.

Lozano-Rodríguez, A., García-Vázquez, F. I., Zubieta-Ramírez, C., & Lopez-Cruz, C. S. (2020). *Competencies associated with Semestre i and its relationship to academic performance: A case study. Higher Education, Skills and Work-Based Learning*, *10*(2), 387-399.

Man, E. P. Y., Xiang, L. H., & Sheng, N. J. (2021). *A Study of Sleep Quality and Stress on Academic Performance among Undergraduate Students in Malaysia*.

Mariano, L. A., Madel, N. S., & Miranda, A. T. (2022). The Relationship between Time Management Skills and Academic Performance of Working Students in Open High School Program. *Asian Journal of Education and Social Studies*, *36*(2), 61-66. https://doi.org/10.9734/ajess/2022/v36i2776

Mohayidin M. G., Turiman, S., Ghazali, M., Konting, M. M., Norfaryanti, K., Man, N. A., Azura, A., & Siti, N., A. (2008). Implementation of Outcome-Based Education in Universiti Putra Malaysia: A Focus on Students' Learning Outcomes. *Internal Education Studies*, *1*(4), 147-160.

Nanthakumar, D. (2022). *Atasi Stres dalam Kalangan Mahasiswa*. Utusan Malaysia.

Napoles, M. A. R., Altubar, J. A. B., & Anding, H. K. T. (2023). The Role of Time Management to the Academic Performance of the College Students During Pandemic. *The International Journal of Sciences and Humanities Invention*, *10*(2), 7731-7741. http://dx.doi.org/10.18535/ijsshi/v10i02.05

Nesam, U. M. (2021). Addressing work-life balance challenges of working women during COVID-19 in Bangladesh. *International Social Science Journal*, *71*(239-240), 7-20.

New Strait Times. (2022). *NST Leader: Dropout by Degrees*.

Ozsoy, D. (2014). University Students' in the Examination of Skills and Attitudes of Time Management. *Social and Behavioral Sciences*, 152, 358-361. https://doi.org/10.1016/j.sbspro.2014.09.21

Pandey, S. (2023). *Top Reasons Why Students Fail in Exams*. The Times of India.

Rahimi, S., & Hall, N. C. (2021). Why are you waiting? Procrastination on academic tasks among undergraduate and graduate students. *Innovative Higher Education*, 46, 759-776.

Roshanisefat, S., Azizi, S. M., & Khatony, A. (2021). Investigating the relationship of test anxiety and time management with academic procrastination in students of health professions. *Education Research International*, 1-6.

Shayan, N. A., Niazi, A. R., Waseq, A. M., & Ozcebe, H. (2021). Depression, Anxiety, and Stress Scales 42 (DASS-42) in Dari-Language: Validity and Reliability Study in Adults, Herat, Afghanistan. *Bezmialem Science*, *9*(3), 356-362. 0

Theobald, M., Bellhäuser, H., & Imhof, M. (2021). Deadlines don't prevent cramming: Course instruction and individual differences predict learning strategy use and exam performance. *Learning and Individual Differences*, 87, 101994.

Vijai, C. (2023). Time and Stress Management for Better Productivity. *Productivity*, *64*(3).

Wolters, C. A., & Brady, A. C. (2021). College students' time management: A self-regulated learning perspective. *Educational Psychology Review*, *33*(4), 1319-1351.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), Handbook of self-regulation (pp. 13–39). Academic Press. https://doi.org/10.1016/B978-012109890-2/50031-7