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Factors That Influence Academic Stress Among Public University Students: The Case of Malaysia

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Abstract

Studying is typically associated with some levels of stress due to the adjustment to new social

and educational settings, but academic stress problems among university students have become more prevalent. This study addresses a question of how academic stress, workload, performance, and facilities are related among the university students. It examines the relationship between academic facilities, self-regulation, academic workload, and academic performance, and academic stress among the university students. A total of 110 students voluntarily participated in this study and completed the questionnaire. The results of the multiple regression analysis reveal a significant relationship between academic workload and academic performance; however, there is no significant relationship between academic facilities and self-regulation and academic stress. The findings suggest that academic workload and academic performance are the most important factors that may influence academic stress among university students. Future research should increase and diversify the samples to improve the generalisability of the results.

Keywords: mindfulness, self-regulation, academic stress, undergraduate students

1. Introduction

Stress can be defined as perception of emotional or physical tension. Several incidents in a person's life can lead to negative emotions, such as anger, frustration and anxiety, which can further develop into stress. Stress is the body's response to challenges or demands and may occasionally be beneficial. However, stress can lead to serious health problems if it persists over a long period of time (Mulder & Hamaker, 2021). Stress levels can vary depending on how a person reacts to a particular situation. Some people are unconcerned about stress, because they believe that it is a trivial matter that will not affect their lives on a daily basis. However, stress can be regarded as a negative behavioral and physiological process that occurs when a person tries to adapt to or compromise with stressors.

According to Robsen and Allen (2020), stress experienced by undergraduate and postgraduate students may be influenced by a variety of factors, including academic and nonacademic elements, such as sociocultural, environmental and psychological aspects. Stress can reach significant levels in some students, particularly during tests and examinations, which may cause them to exhibit symptoms of anxiety. Academic stress has increased in recent years owing to the growing demands of exams, assignments and other activities (Sarafino, 2022). Teachers and parents may exert considerable pressure on students and their children to obtain high marks in their school subjects. Such expectations may cause students to study relentlessly, which may increase their stress.

Stress has become a major issue in academic environments. However, academic stress among students has received little attention. Therefore, this study investigates whether academic facilities, self-regulation, academic workload and academic performance influence academic stress among university students

2. Literature Review

University life can be rewarding and fulfilling for students (Feng & Hossain, 2019). Research on stressors and their impact on the well-being of university students has become increasingly important. The mental health of university students is an important public health issue, because university students comprise the future human capital of the country. Several studies found that high levels of stress can lead to a domino effect, such as high dropout rates and low graduation rates (Pascoe, Hetrick, & Parker, 2020).

2.1 Academic Facilities

Blocken, Druenen, Hooff, Verstappen, Marchal, and Marr (2020) acknowledged that students' emotions are closely linked with various aspects of the learning environment, including the available facilities. Academic facilities can be categorised as two types, namely, permanent and semipermanent structures. Academic facilities include transport/logistics facilities, libraries, laboratories, computer labs, dormitory/catering facilities, medical facilities, sports facilities and classrooms, teaching aids and other equipment and tools and consumables for educational purposes (Abbasi, Malik, Chaudhry, & Imdadullah, 2011; Yaacob, Ali, & Mohd Nasir, 2024). Meanwhile, Ongori and Agolla (2009) found that inadequate resources are among the main factors that can affect student stress. Based on the above reasoning, this study proposes the

following hypothesis:

H1: Academic facilities will have a significant impact on academic stress among university students.

2.2 Self-regulation

Self-regulation can be defined as the process through which one monitors, controls and modifies the self, thoughts, feelings and behaviours (Inzlicht, 2021). For example, a student with high self-regulation will more likely turn down a social opportunity to 'hang out' the night before a test than a student with low self-regulation. In general, individuals with strong self-regulation can better adapt to the demands of different situations, tend to experience less stress in their studies and at work and generally have better psychological well-being than individuals with weak self-regulation (Chust-Hernández, 2021). Omar, Jusoh and Kasuma (2020) argued that self-regulation is an important area of study by showing that individuals with strong self-regulation are highly adept at managing their emotions, thoughts, behaviours and time. Such individuals can also utilise their energy and resources successfully. At the same time, such individuals are less emotionally exhausted and show less indifference and apathy towards their academic duties than those with weak self-regulation. Based on the above argument, this study proposes the following hypothesis:

H2: Self-regulation will have a significant impact on academic stress among university students.

2.3 Academic Workload

Yikealo, Yemane and Karvinen (2018) referred to academic workload as the number of contact hours in classroom teaching, assignments and projects and hours of independent study per week in a semester. Academic workload and extracurricular commitment can be a source of stress for students. In recent decades, interest in the well-being of university students, including their workload and academic stress, has increased (Balkis & Duru, 2017). Weerasinghe, Batagod, Chandrika and Siriwardans (2012), demonstrated that high academic workload is the most important factor that can influence the stress level of students in public universities in Sri Lanka, in the Colombo region, which accounts for 90% of the top 10 stressors. In terms of academic workload, tests and examinations were found to be the top 10 stressors, and students were observed to experience excessive stress during pretest and examination periods. Therefore, this study proposes the following hypothesis:

H3: Academic workload will have a significant impact on academic stress among university students.

2.4 Academic Performance

Farb and Matjasko (2012) described academic performance as a student's cumulative grade point average, standardized test and exam scores and educational aspirations and attainment. Academic performance is closely related to academic stress, because parents, teachers and institutions exert pressure on their children and students to maintain or improve their grades, which may lead to chronic stress (Pascoe et al., 2020). Students fear that a drop in their

performance will limit their future opportunities, especially their prospects for employment and acceptance into postgraduate programmes, which may exacerbate their anxiety. In addition, students may perceive responsibility to maintain their excellent performance when they secure scholarships or bursaries, which can contribute to their stress. Based on the above argument, this study proposes the following hypothesis:

H4: Academic performance will have a significant impact on academic stress among university students.

3. Research Method

The population consisted of 42,000 undergraduate students from Universiti Teknologi MARA, Shah Alam Campus. A questionnaire was distributed via WhatsApp links. Respondents were informed that their participation was voluntary and that they had the right to withdraw their participation at any time without consequences. The sample size was determined based on Roscoe (1975), who recommended a sample of approximately 379 to 400 respondents for a population of 42,000 individuals. Using a simple random sampling, 110 usable responses were received, which corresponds to a response rate of 29%. This is in line with the observation of Sataloff and Vontela (2021), who found that the response rate for social science surveys is usually around 25%. The data were analysed using various statistical methods, including descriptive statistics (mean and standard deviation for all variables), Pearson's correlation analysis and multiple regression analysis using SPSS.

In this study, the dependent variable was academic stress, which was measured by using 12 items. The respondents rated each item on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. The independent variables were four domains, namely, academic facilities, self-regulation, academic workload and academic performance. Each domain was assessed by using 12 items measured on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

Subsequently, a reliability test was conducted to assess the consistency of the variables. Table 1 shows that the Cronbach's alpha value of all the variables was above 0.7, which confirmed the reliability of the variables used in the model (Nunnally, 1978). In addition, the validity of the research instruments was confirmed by a pilot study with 30 students and the content validity was verified by experts in the field.

Table 1. Reliability test results

Variable	No. of items	Cronbach's alpha
Academic Facilities	12	0.968
Self-regulation	12	0.930
Academic Workload	12	0.894
Academic Performance	12	0.886
Academic Stress	12	0.905

4. Findings and Discussions

4.1 Descriptive Statistics and Correlation

Table 2 presents the descriptive statistics of all the variables used in the regression analysis. Statistics, such as the mean and standard deviation (SD), are analyzed to ensure the integrity of the data by identifying possible errors, such as data entry errors, missing values or outliers. The academic facilities variable has the highest means of 4.2273, and the other four variables have a mean above 2.5, which indicate the generally high values across the dataset.

Table 2. Descriptive statistics and correlation analysis results

Item	Mean	SD	1	2	3	4	5
1. Academic Facilities	4.2273	0.82410	1				
2. Self-regulation	2.8364	0.86204	0.275**	1			
3. Academic Workload	3.0917	0.80328	0.550**	0.135	1		
4. Academic Performance	2.9727	0.76669	0.650**	0.190*	0.739**	1	
5. Academic Stress	3.2909	0.83347	0.600**	0.198*	0.512**	0.583**	1

Note. *** indicates significance at p = 0.01.

Source: Sample survey.

4.2 Multiple Regression Analysis

The regression model shows a moderate-to-strong predictive power, with an adjusted R-squared value of .499, which means that 49.9% of the variability of the dependent variable can be explained by the independent variables (Table 3). Overall, the model exhibits strong fit, which emphasises the significant collective contribution of the variables to the prediction of the dependent variable.

Table 3. Multiple regression analysis results

	H		β	p-value
Constant				
Academic Facilities	1		0.130	0.064
Self-regulation	2		0.098	0.336
Academic Workload	3		0.375	0.001
Academic Performance	4		0.306	0.001
R^2		0.517		
Adjusted R^2		0.499		
F		0.000		
R^2		0.517		

H1 is not supported, because the coefficient of the academic facilities variable is not significant at the 5% level (p-value = 0.064). This result shows that no significant relationship exists between academic facilities and academic stress. This finding is consistent with that of Saqib and Rehman (2018), who observed that pressure from parents, peers or an institution on students to obtain high grades or secure a prestigious position and students' time management and heavy workload can lead to stress, regardless of the available academic facilities. The regression results show no significant relationship between self-regulation and academic stress (p-value = 0.336); thus, H2 is not supported. This result may be explained by the students' different personal stress thresholds and responses, regardless of their self-regulation ability. In highly competitive academic environments, self-regulation may help a student manage their time and tasks, but external competition can lead to considerable stress.

Academic workload has a p-value of 0.01, which is lower than $\alpha = 0.05$. The variable's positive coefficient of 0.375 indicates that H3 is supported at the 5% significance level. Thus, the result indicates that a significant relationship exists between academic workload and academic stress, and an increase in academic workload by one unit will lead to an increase in academic stress by 0.375. The results show that academic workload contributes significantly to stress mainly owing to students' number of tasks and projects and tight deadlines. Simultaneous deadlines and difficult coursework can increase student pressure and anxiety. Balancing academic tasks and part-time jobs, extracurricular activities and family obligations may further limit students' time for studying and increase their stress (Berdida & Grande, 2022).

The regression analysis shows a significant correlation between academic performance and academic stress ($p = .001$). In addition, the standardized coefficient (beta) of academic performance is 0.306 ($p < .05$), which means that academic stress increases by 0.306 for every one-unit increase in academic performance. The result suggests that the students are exposed to a highly competitive academic environment, which may increase peer pressure and exacerbate their fear of falling behind. Responsibility to maintain their grades and the burden of extracurricular activities and personal commitments can lead to mental fatigue, and prolonged stress can have a negative impact on students' emotional well-being and lead to anxiety and depression. Furthermore, social media may compound students' stress through constant academic comparisons.

5. Recommendation and Conclusion

This study provides evidence showing that academic facilities and self-regulation have no impact on academic stress, whereas academic workload and academic performance have a significant impact on academic stress. Analysis is conducted on 110 responses from public university students in Malaysia. This study contributes to the existing body of knowledge by examining the significant factors that can influence academic stress among university students. The findings can be utilized by the Ministry of Higher Education and higher education institutions to reduce the number of cases of depression among public university students in Malaysia. Strategies for reducing the number of such cases include providing recommendations to improve support services. That is, higher learning institutions should expand support services that are tailored to the various stressors experienced by students,

including extending counselling services, establishing peer support networks and offering financial aid to alleviate the burden of scholarship requirements and financial constraints. Moreover, stress reduction initiatives should be implemented, which is in line with higher learning institutions' plan to implement campuswide initiatives to reduce stress and promote holistic well-being, including organising stress reduction events, providing access to recreational facilities and promoting healthy lifestyle habits, such as exercising regularly, eating nutritious foods and getting adequate sleep.

Future studies can examine moderating or mediating factors that can influence the aforementioned relationships, such as social support, coping strategies or individual differences. In addition, comparative studies across different student populations and cultural contexts can provide valuable cross-cultural insights into stress coping strategies.

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