

Exploring Factors Influencing Stress for Online Learning Among University Students

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Abstract: *The prevalence of stress among university students attributed to online learning is escalating daily. This article investigates the various factors that contribute to stress in students engaged in online education. The study examines both internal factors, such as time management skills, and external factors, including limited social interaction. Through a comprehensive survey conducted among university students, the research identified that difficulties in maintaining focus, challenges associated with multitasking, and feelings of isolation emerged as the most significant contributors to stress levels. Furthermore, it was observed that students made considerable efforts to mitigate these challenges by developing structured schedules and prioritizing essential tasks. However, despite these strategies, many students reported that they had not fully alleviated the stress associated with online learning. The findings suggest a complex interplay of individual and environmental factors affecting student well-being during this transition to online education. As institutions continue to adapt to these changes, addressing the identified stressors may be crucial for enhancing student mental health and academic performance.*

Keywords: Stress, Online Learning, Time Management, Limited Social Interaction

1. Introduction

The pressures of social expectations, personal challenges including financial difficulties and relationship issues and academic demands are significant contributors to the pervasive stress experienced by university students. As students transition from high school to university, they encounter heightened expectations to maintain high academic performance, which is often viewed as essential for securing a successful future. This transition places an overwhelming burden on students, who must navigate a multitude of responsibilities and concerns.

For those engaged in online learning, the complexities associated with this educational format exacerbate the challenges they face. University students participating in online courses frequently struggle with effective time management as they attempt to balance deadlines, class schedules, and social relationships. This multifaceted juggling act often leaves little room for relaxation or self-care. The situation is particularly challenging for working students, who must contend with the additional demands of employment alongside their academic commitments.

Research conducted through surveys has revealed that many students find it difficult to adhere to their schedules, frequently experience distractions during online classes, and feel overwhelmed by the pressures of daily life. Moreover, the lack of physical interactions inherent in online learning environments deprives students of vital social connections. Unlike traditional classrooms where face-to-face discussions foster collaboration and camaraderie, online platforms often limit opportunities for meaningful engagement with peers. This absence of interaction can lead to feelings of isolation and disconnection, which in turn contribute to mental health issues such as anxiety and depression.

The survey findings indicate that students perceive a diminished sense of collaborative effort from their peers and report feelings of loneliness. To safeguard the well-being and academic success of these individuals, it is imperative to identify the root causes of their stress and implement effective solutions. If these issues remain unaddressed, there is a significant risk of increased academic failure due to the detrimental effects of stress on student performance. While various initiatives have been introduced to support students, these measures have yet to fully resolve the underlying challenges. It is also essential to recognize that online learning may not be suitable for all students, as individual preferences and learning styles vary considerably.

In light of these considerations, this research aims to explore the relationship between two independent variables time management and limited social interaction and the dependent variable of online learning. The study seeks to gain a deeper understanding of the specific challenges faced by students in this context and develop support mechanisms that enhance their online learning experience. Ultimately, the objective is for university students engaged in online education to excel academically while minimizing stress, thereby fostering a more positive educational journey.

Research Questions

- i. Is there a correlation between time management skills and online learning experiences among university students?
- ii. Is there a correlation between limited social interaction and online learning experiences among university students?

Research Objectives

- i. To investigate the relationship between time management and online learning experiences among university students.
- ii. To examine the relationship between limited social interaction and online learning experiences among university students.

2. Literature Review

i. Time Management

Time management is an essential skill for students, particularly for those enrolled in higher education institutions where parental supervision is absent. It encompasses a range of competencies, including self-management, the ability to maintain deep focus, the effective allocation of time for important tasks, and the pursuit of efficiency in daily activities. More than just a practical skill, time management is a form of life management that enables students to monitor their achievements and habits while striving for continuous improvement.

In the context of online learning, effective time management can be significantly hindered. Students often face challenges in prioritizing tasks and may succumb to procrastination, which

can exacerbate stress levels. To enhance productivity, it is imperative that students adopt various techniques and strategies designed to ensure timely completion of tasks. This proactive approach not only alleviates stress but also fosters an environment conducive to academic success. Research indicates that proficient time management skills correlate positively with improved academic performance and higher grades, underscoring the importance of this competency in the educational journey.

ii. Limited Social Interaction

Since the late 1990s, Malaysian higher learning institutions have increasingly implemented online learning modalities that offer students enhanced accessibility, functionality, and flexibility. However, these benefits are accompanied by notable drawbacks. The lack of interpersonal interactions inherent in online learning environments can lead to a diminished human connection among students. This situation is particularly challenging for international students who must navigate additional hurdles such as time zone differences, cultural disparities, and language barriers.

The limited opportunities for communication in online settings can adversely affect students' social skills, teamwork capabilities, and conflict resolution abilities—skills that are critical for both academic and professional success. Moreover, the development of trust between students and lecturers may be compromised due to insufficient interaction. The learning environment itself plays a pivotal role in shaping student growth; thus, adjustments to new environments can be daunting, especially when access to necessary devices or high-speed internet connections is limited.

Personal preferences and behavioural patterns also influence social interactions within online platforms. For instance, students who identify as introverted may find the lack of face-to-face engagement particularly challenging. Conversely, extroverted individuals may struggle with feelings of isolation when deprived of social interactions. Furthermore, significant time differences between Malaysia and other countries can hinder effective communication between students and their instructors, further complicating the online learning experience.

iii. Online Learning

Online learning refers to an educational process that utilizes electronic media or technology to facilitate teaching and learning. This mode of education allows both students and lecturers to access and interact with teaching materials via the internet. The ease of access provided by online learning platforms promotes socialization and personal development among students.

There are two primary formats of online learning: asynchronous and synchronous. Asynchronous online learning enables students to access materials at their convenience, allowing for flexibility in their study schedules. In contrast, synchronous online learning facilitates real-time interactions between instructors and students, fostering immediate feedback and engagement.

Despite its advantages, online learning presents unique challenges that must be addressed to maximize its effectiveness. For instance, students may struggle with self-discipline when managing their study schedules independently without structured oversight. Additionally, the absence of physical classroom dynamics can lead to feelings of disconnection from peers and instructors alike.

In summary, effective time management is vital for academic success among university students engaged in online learning environments. However, challenges such as limited social interaction can impede both personal development and academic performance. Understanding these dynamics is crucial for developing strategies that enhance the online learning experience while addressing the unique needs of students in higher education contexts. Future research should focus on identifying effective interventions that promote better time management practices and foster meaningful social interactions among students participating in online courses. By addressing these issues comprehensively, educational institutions can create more supportive environments that facilitate student success in an increasingly digital world.

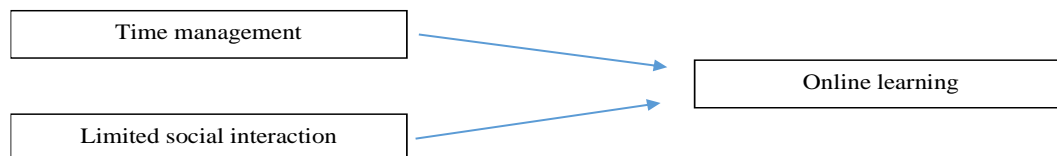


Figure 1: Research Framework

A research framework serves as a structured model that underpins the assertions or claims presented in a study. It provides a clear understanding of how insights derived from previous lessons can inform the application of appropriate approaches or methodologies in specific contexts. This framework enables the research to explore and elucidate the relationship between independent and dependent variables.

In the figure above, the research framework has been developed to illustrate the objectives of this study. It delineates the relationship between the two categories of variables involved: independent variables and dependent variables. The independent variables encompass factors that may influence students' experiences in online learning, specifically including time management and limited social interaction.

Statement of Hypothesis

- i. There is a significant correlation between time management skills and online learning experiences among university students.
- ii. There is a significant correlation between limited social interaction and online learning experiences among university students.

3. Methodology

To achieve the study's objectives, a comprehensive range of data collection techniques was employed, complemented using the Statistical Package for the Social Sciences (SPSS) software for data analysis. This research primarily utilized a quantitative approach, which is particularly effective in gathering numerical data that can be statistically analyzed to identify patterns and relationships among variables. The primary method of data collection in this study involved administering questionnaires to university students. Surveys are widely recognized as one of the most popular strategies for collecting quantitative data due to their ability to elicit honest and straightforward responses from participants. The structured format of surveys, which typically includes closed ended questions, allows researchers to obtain quantifiable data that can be easily analyzed. This method not only enhances the reliability of the responses but also ensures that each participant's information remains confidential and secure. Survey research is highly regarded for its effectiveness in gathering large amounts of data in a relatively short time frame. By employing this method, researchers can reach a broader audience, thereby increasing the representativeness of the sample and enhancing the generalizability of the

findings. The anonymity provided by surveys encourages participants to provide candid feedback without fear of judgment, which is crucial for obtaining accurate insights into their experiences and perceptions. In addition to survey research, a descriptive study design was utilized to explore the relationships between variables in greater depth. The focus of this aspect of the research was to investigate factors contributing to stress among university students engaged in online learning. Descriptive studies are particularly useful for examining how various elements interact and influence one another, allowing researchers to gain a nuanced understanding of the dynamics at play. By employing descriptive statistics, the researcher was able to analyze the collected data systematically. This approach facilitated an exploration of how time management and limited social interaction—identified as independent variables—affect students' experiences in online learning environments. The descriptive study thus provided valuable insights into the specific factors that may contribute to stress, enabling a more comprehensive understanding of the challenges faced by students. The final methodological approach employed in this investigation was a cross-sectional design. This strategy involved distributing questionnaires to respondents over a short period—specifically within one week—to gather relevant information efficiently. The cross-sectional design is advantageous because it allows researchers to capture a snapshot of data at a single point in time, making it possible to analyze trends and relationships among variables quickly. This method is particularly effective when time constraints exist or when researchers aim to gather preliminary data that can inform future studies. By utilizing a cross-sectional approach, this research was able to compile diverse perspectives from university students regarding their experiences with online learning, thereby enriching the overall dataset. In summary, this study employed a multifaceted methodology that combined various data collection techniques, including surveys and descriptive studies, within a cross-sectional framework. By utilizing these approaches, researchers were able to effectively identify and analyze the relationships between independent and dependent variables related to stress in online learning contexts. The integration of SPSS software further enhanced the analytical capabilities of the research, allowing for robust statistical analysis of the collected data. Overall, this comprehensive methodology not only supports the study's objectives but also contributes valuable insights into the factors influencing student experiences in online education.

4. Findings

The study conducted for this project, which involved a survey examining the variables affecting stress levels among university students engaged in online learning, serves as the foundation for the following conclusions. To analyze the data, the study employed four analytical techniques: demographic analysis, normality analysis, reliability analysis, and correlation analysis.

i. Statistics

		Gender	Faculty	Semester	Age	Race
N	Valid	102	102	102	102	102
	Missing	0	0	0	0	0
	Mean	1.69	1.68	5.06	1.96	2.44
	Median	2.00	1.00	5.00	2.00	3.00
	Mode	2.00	1.00	4.00 ^a	2.00	3.00
	Std. deviation	0.46	0.91	1.68	0.72	0.87
	Variance	0.22	0.84	0.83	0.51	0.76
	Minimum	1.00	1.00	1.00	1.00	1.00
	Maximum	2.00	4.00	9.00	5.00	4.00

a. Multiple modes exist. The smallest value is shown.

The frequency table indicates that each demographic variable—gender, faculty, semester, age, and race have an equal frequency of 102.

ii. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	32	32.4	31.4	31.4
	Female	70	68.6	68.6	100.0
	Total	102	100.0	100.0	

The data presented in the above table reveals the presence of two distinct genders: male and female. The number of female respondents (70) exceeds that of male respondents (32), suggesting that women constitute most of the responses to the questionnaire.

iii. Faculty

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business/Technology & Accounting	55	53.9	53.9	53.9
	Education	34	33.3	33.3	87.3
	Foundation	4	3.9	3.9	91.2
	Other	9	8.8	8.8	100.0
	Total	102	100.0	100.0	

The data presented in the above table categorizes faculties into four types: Education, Foundation, Business/Technology & Accounting, and other faculty categories. Among these, students from the Business, Technology, and Accounting faculty represented the largest group of respondents, totaling 55, whereas Foundation students comprised the smallest group, with only 4 respondents.

iv. Semester

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.9	2.9	2.9
	2	3	2.9	2.9	5.9
	3	10	9.8	9.8	15.7
	4	23	22.5	22.5	38.2
	5	21	20.6	20.6	58.8
	6	23	22.5	22.5	81.4
	7	12	11.8	11.8	93.1
	8	5	4.9	4.9	98.0
	9	2	2.0	2.0	100.0
	Total	102	100.0	100.0	

The data presented in the above table identifies nine semesters. The groups of students in semesters 4 and 6 had the highest number of respondents, with a total of 23 individuals, while the group in semester 9 had the lowest number of respondents, totaling just 2 individuals.

v. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 – 20 years old	21	20.6	20.6	20.6
	21 – 23 years old	69	67.6	67.6	88.2
	24 – 26 years old	9	8.8	8.8	97.1
	27 – 30 years old	1	1.0	1.0	98.0
	31 – 49 years old	2	2.0	2.0	100.0
	Total	102	100.0	100.0	

As illustrated in the above table, the age group of 21 to 23 years has the highest frequency, with 69 respondents. In contrast, the 27 to 30 age group has the lowest frequency, with only one respondent.

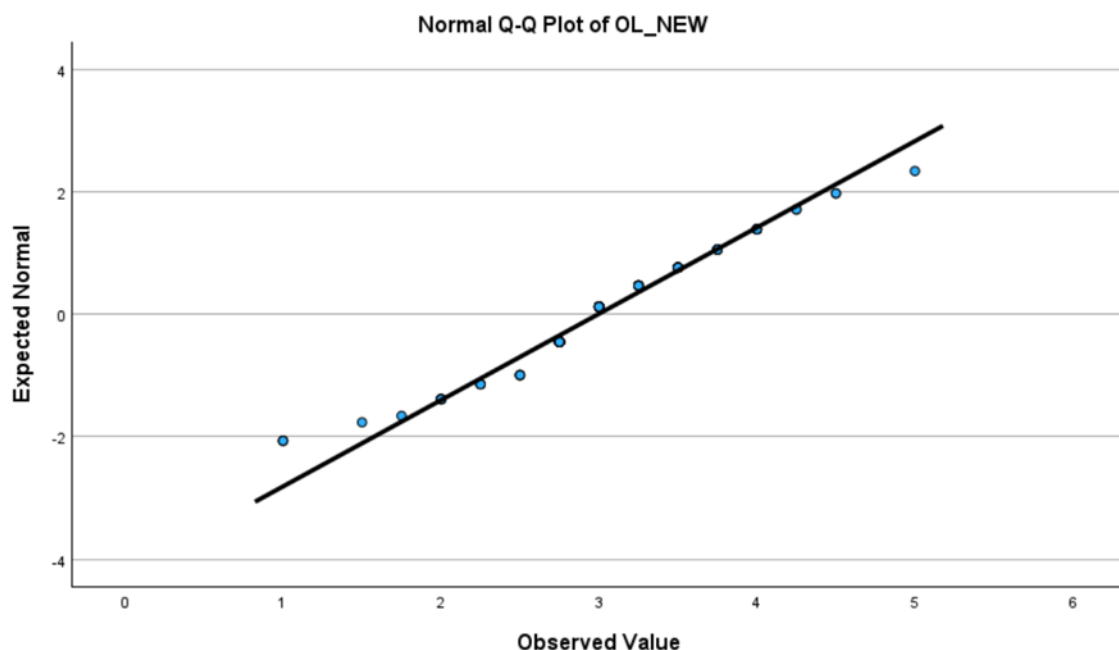
vi. Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	21	20.6	20.6	20.6
	Chinese	20	19.6	19.6	40.2
	Indian	56	54.9	54.9	95.1
	Others	5	4.9	4.9	100.0
	Total	102	100.0	100.0	

According to the data presented in the table above, there are four identifiable racial groups: Malay, Chinese, Indian, and others. The Indian group received the highest number of responses, totaling 56 individuals, while other groups, such as Indian Muslims, had the lowest frequency with only 5 respondents.

vii. Normality analysis

According to the scatter plot above, the results indicate that the data points closely align with the diagonal line. This outcome demonstrates that the data sample is normally distributed.



viii. Reliability Analysis

Variables	Cronbach's alpha	No. of Items
Online learning	0.76	4
Limited social interaction	0.75	5
Time management	0.82	4

The reliability analysis indicates that Cronbach's Alpha value for the dependent and independent variables—specifically online learning, limited social interaction, and time management—exceeds 0.7. This high level of internal consistency suggests that the items are sufficiently reliable to confirm the accuracy of the measurement.

ix. Correlation Analysis

		OL_NEW	LSI_NEW	TM_NEW
OL_NEW	Pearson correlation	1	0.450**	-0.065
	Sign. (2-tailed)		< 0.001	0.518
	N	102	102	102
LSI_NEW	Pearson correlation	0.450**	1	0.009
	Sign. (2-tailed)	< 0.001		0.932
	N	102	102	102
TM_NEW	Pearson correlation	-0.065	0.009	1
	Sign. (2-tailed)	0.518	0.932	
	N	102	102	102

** Correlation is significant at the 0.01 level (2-tailed)

5. Discussion

	Hypothesis	Result
H_1	There is a relationship between limited social interaction and online learning	Moderate positive range
H_2	There is a relationship between time management and online learning	Very weak negative range

This research study examines the influence of independent variables, specifically limited social interaction and time management, on stress levels associated with online learning among university students. The findings reveal a moderate positive correlation between online learning and limited social interaction, indicating that students experience heightened stress as social interaction decreases. This phenomenon is particularly significant as many instructors and students are navigating this online learning environment for the first time. Consequently, it is essential to assess the effectiveness of this abrupt transition to online learning. The results suggest that social interaction plays a crucial role in mitigating barriers to effective learning, highlighting its importance in delivering quality online education.

Furthermore, the study indicates that time management also significantly affects stress levels in online learning environments. Poor time management correlates with increased stress, suggesting that students who struggle with managing their time may face greater challenges and experience higher stress levels. Highly productive individuals prioritize their daily tasks, which enables them to focus on essential work while minimizing distractions. Effective time management requires self-discipline to maintain focus and complete tasks efficiently.

To enhance the credibility of future research, it is recommended that subsequent studies increase their sample sizes. Additionally, future research should consider incorporating other variables that may influence stress levels in online learning, as numerous factors beyond limited social interaction and time management could impact students' experiences.

In conclusion, researchers are encouraged to expand their sample sizes and explore additional variables affecting university students' stress levels in online learning contexts to improve the quality and comprehensiveness of future studies.

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