

# The Impact of Time Management and Social Interaction on Online Learning Stress among University Students

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## Abstract

This study explores the impact of time management and limited social interaction on online learning among university students, addressing the prevalent stressors associated with remote education. The motivation behind this research stems from the rapid transition to online learning during recent global disruptions, which has significantly altered traditional educational dynamics. Understanding how time management and social interactions influence students' academic experiences is crucial for developing effective interventions and support systems. The primary objective was to investigate the relationships between these independent variables and their effects on students' academic experiences. A quantitative methodology was employed, utilizing a structured questionnaire distributed to 102 university students. Data were analyzed using the Statistical Package for the Social Sciences (SPSS), incorporating descriptive, reliability, and correlation analyses. Findings indicate a moderate positive relationship between limited social interaction and online learning, suggesting that decreased social engagement correlates with increased stress levels. Time management exhibited a very weak negative correlation with online learning stress. The contribution of this study lies in its potential to inform educational institutions, policymakers, and educators about the critical areas of focus to improve online learning experiences. This study offers practical advice for creating more interesting and stress-free online learning environments by emphasising the value of social connections and time management. These findings highlight how crucial it is to promote social connections in virtual settings and improve time management abilities in order to reduce student stress. The study highlights the necessity of focused tactics to maintain students' wellbeing and motivation in online learning environments.

**Keywords:** Online Learning, Time Management, Social Interaction, Student Stress, Academic Performance

**Introduction***Background of the Study*

The transition from high school to university marks a significant turning point in students' academic journeys, often accompanied by heightened expectations and pressures. According to Roos & Schreck, (2021), among the myriad challenges faced by university students, stress stands out as a pervasive and complex issue influenced by various factors, including social expectations, personal circumstances, and academic demands. As students navigate their newfound autonomy, the need to maintain high grades becomes paramount, compelling them to manage multiple responsibilities simultaneously. For those engaged in online learning, the challenges can be even more pronounced. The complexities inherent in virtual education introduce additional hurdles, such as the necessity for self-discipline and the ability to prioritize tasks effectively (Culduz,2024). As a result, students often find themselves overwhelmed, leading to a detrimental impact on their academic performance and overall well-being.

Time management emerges as a critical skill in this context, especially for students who lack parental supervision and must independently navigate their academic responsibilities (Budhrani et al. 2021). Effective time management involves not only the ability to prioritize tasks and meet deadlines but also the cultivation of focus and efficiency. In an online learning environment, the absence of structured class schedules can exacerbate procrastination and hinder productivity, making it essential for students to implement effective strategies to manage their time (Olleras et al. 2022). The repercussions of poor time management can extend beyond academic performance, affecting students' mental health and exacerbating feelings of stress and anxiety. As students struggle to balance coursework, social relationships, and, for some, work commitments, the implications of their time management skills become increasingly significant.

Baber (2022), found that limited social interaction is another crucial factor influencing the online learning experience. Traditional classroom settings foster immediate, face-to-face communication and collaborative learning, which are vital for developing social skills and building supportive networks among peers. In contrast, online learning often lacks these interpersonal dynamics, leading to feelings of isolation and disconnection. For many students, the absence of spontaneous interactions and collaborative opportunities can hinder their ability to engage fully with course material and their peers. According to Newcomb et al. (2021), this limited interaction can also affect the development of trust and rapport with instructors, further complicating the learning process. As students report feelings of loneliness and a lack of collaborative effort from their peers, it becomes clear that the social dimension of learning is essential for fostering an engaging and supportive educational environment.

Given the critical relationship between time management, social interaction, and online learning, this study aims to explore how these factors contribute to the stress experienced by university students. Through examining the complex relationships between these separate factors, this study seek to highlight particular obstacles that impede students' progress in their studies and general well-being in virtual learning settings. The purpose of this research's

findings is to provide guidance for the creation of focused support systems that can assist students in improving their online learning environment.

### **Research Objective & Questions**

#### *Research Objective*

- I. To study the relationship between time management and online learning among university students.
- II. To study the relationship between limited social interaction and online learning among university students.
- III.

#### *Research Questions*

- I. Is there any relationship between time management and online learning among university students?
- II. Is there any relationship between limited social interaction and online learning among university students?

### **Literature Review**

#### *Time Management*

Time management is a critical skill for university students, especially in the context of online learning, where self-regulation and discipline are paramount (Xavier & Meneses, 2022). Research indicates that effective time management enables students to prioritize tasks, set achievable goals, and allocate sufficient time for study, which collectively enhances productivity and academic performance (Mbeya & Musa, 2022). According to Kumari, & Chandrika (2023), students who employ effective time management strategies not only demonstrate higher levels of academic success but also experience reduced stress levels. This is particularly relevant in an online learning environment, where the absence of structured schedules can lead to procrastination and disorganization. A study by Trentepohl et al. (2022) found that students who actively engage in time management practices are better equipped to handle academic demands, resulting in improved grades and overall satisfaction with their educational experience. Inadequate time management often leads to increased stress, as students grapple with deadlines overlapping and the challenge of balancing multiple responsibilities, including work and personal commitments.

The dynamic nature of online learning exacerbates the need for strong time management skills (Hensley et al. 2022). In this setting, students must navigate asynchronous learning modules and varied communication platforms, which can complicate their ability to stay focused and organized. Research by Ahn & Chi (2023), highlights that students frequently struggle with prioritizing tasks and managing their schedules, ultimately impacting their academic outcomes and increasing feelings of overwhelm. Effective time management not only aids in task completion but also fosters a sense of control and agency among students, which can mitigate feelings of stress and anxiety (Alhasani & Orji, 2024). As students learn to prioritize their coursework and establish productive routines, they can enhance their learning experiences and outcomes (Corno, 2023). Given these insights, the current study aims to explore the intricate relationship between time management and online learning stress, emphasizing the need for students to develop and implement effective strategies to navigate the unique challenges posed by remote education.

#### *Limited Social Interaction*

Limited social interaction is a significant concern in the realm of online learning, particularly as students transition from traditional classroom environments to virtual platforms. Research has consistently shown that social interaction plays a critical role in the educational experience, influencing not only academic performance but also students' mental health and overall well-being (Campbell et al. 2022). In face-to-face settings, students benefit from immediate feedback, collaborative discussions, and the formation of supportive relationships, all of which contribute to a rich learning environment (Yin & Shi, 2022). However, online learning often lacks these essential interpersonal dynamics, leading to feelings of isolation and disconnection among students. According to Moore & Piety, (2022), the absence of physical presence in online courses can diminish the sense of community, making it challenging for students to form meaningful connections with peers and instructors.

The limited opportunities for social interaction can have profound implications for students' engagement and motivation. Research by Guo et al. (2023) indicates that students who experience social isolation in online learning settings report lower levels of participation and satisfaction. This disconnect not only affects their ability to collaborate effectively on group projects but also hinders their development of essential skills such as teamwork and conflict resolution. The emotional toll of social isolation can exacerbate mental health issues, leading to increased anxiety and depression among students. A study by Kaufmann & Vallade, (2022) emphasizes that fostering social connections within online learning environments is crucial for mitigating these negative effects. As such, creating opportunities for interaction, whether through discussion forums, virtual study groups, or synchronous class sessions, is vital for enhancing students' academic experiences and promoting their overall well-being. This literature shows the necessity of addressing the challenges posed by limited social interaction in online learning, informing our investigation into its impact on university students' stress levels.

### **Online Learning**

According to Barron et al. (2022), online learning has transformed the educational landscape, offering students flexibility and accessibility that traditional classroom settings often cannot provide. Defined as a learning process facilitated by electronic media, online education enables students to engage with course materials and instructors remotely, often at their own pace (Ahmed & Opoku, 2022). This mode of learning has gained significant traction in higher education, particularly accelerated by the global shift to remote education during the COVID-19 pandemic. According to Ajamy, (2023), enrollment in online courses has steadily increased over the years, reflecting a growing acceptance of this learning modality. The trend toward online education has not only expanded access to a wider array of learners but has also prompted institutions to invest in digital infrastructure and innovative teaching methodologies (Alenezi 2023). While online learning presents numerous advantages, such as increased accessibility and the ability to tailor learning experiences, it also poses unique challenges that can impact students' academic success and mental health.

According to Dharma et al (2023), the significant challenge associated with online learning is the reliance on self-discipline and motivation. Unlike traditional classroom environments, where students receive direct supervision and immediate feedback, online learners must independently manage their time and engagement with course content (Navarro & McGrath, 2022). Research by Huang & Wang, (2023), highlights that students often struggle with

motivation in online courses, leading to issues such as procrastination and disengagement. This trend is concerning, as it can adversely affect students' academic performance and overall satisfaction with their educational experiences.

The absence of face-to-face interactions can hinder the development of a supportive learning community, exacerbating feelings of isolation and disconnection among students (Zografos, 2023). The efficacy of online learning is often contingent on the strategies employed by both instructors and students to foster interaction and collaboration, as indicated by Orona et al. (2022). This findings emphasizes the importance of social, cognitive, and teaching presences in creating an effective online learning environment.

### Research Framework

A research framework provides a clear model to support the effort or claims made. A framework gives a clear understanding how we determine from our lessons, how to apply the right approach or methods in a given situation. This framework allows this research to discover the relationship between the independent and dependent variables.

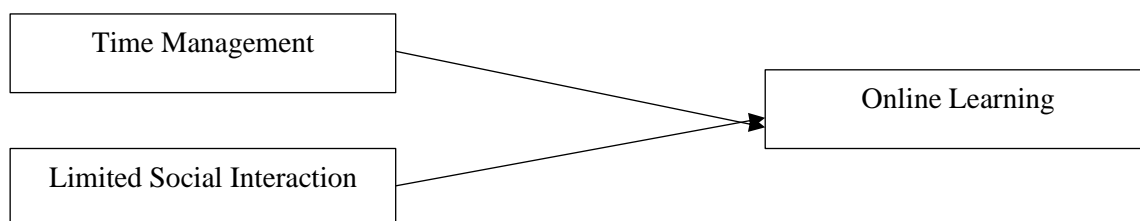


Figure 1: Research Framework

In the above figure, The research framework is created to display the objective studied in this research. It presents the relationship between the two variables in the research which are the independent variables and dependent variables. The independent variables are the factors that can affect students in their journey of online learning which includes time management and limited social interaction.

### Methodology

To identify solutions and responses in order to meet the study's objectives, a variety of data collection techniques were employed, and Statistical Package for the Social Sciences ( SPSS ) analytic software was used for the analysis. In this study, the quantitative approach was one of the methodologies used. University students are given questionnaires to complete in order to achieve this. Researchers feel that survey research is the most popular quantitative data collection strategy. Survey research has been utilized by many researchers because it offers a larger possibility for honest and unambiguous responses or feedback than other research methods. This is why researchers regard this approach as effective. Every respondent's data will be private and secure. Furthermore, the descriptive study was used to show how the variables are related since the researcher is interested in discovering the elements impacting stress for online learning among university students. Furthermore, the descriptive study enables the researcher to assess the factors that could affect students in-depth. The cross-sectional process is the final method used in this investigation. This strategy

is used since the questionnaire was widely distributed to respondents in less than a week in order to gather information for the study.

### Findings

The project's study, which included a survey of the variables impacting university students' stress levels for online learning, is the basis for the following conclusions. To investigate the data, the study used four analytical techniques: demographic analysis, normality analysis, reliability analysis, and correlation analysis.

### Descriptive and Frequencies

Table 1

*Descriptive Statistic*

		Statistics				
		Gender	Faculty	Semester	Age	Race
N	Valid	102	102	102	102	102
	Missing	0	0	0	0	0
Mean		1.6863	1.6765	5.0588	1.9608	2.4412
Median		2.0000	1.0000	5.0000	2.0000	3.0000
Mode		2.00	1.00	4.00 <sup>a</sup>	2.00	3.00
Std. Deviation		.46630	.91372	1.68172	.71645	.87397
Variance		.217	.835	2.828	.513	.764
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 dataset comprises 102 valid responses with no missing values, indicating a complete dataset. For gender, the mean (1.6863) and mode (2.00) suggest a predominance of female participants, aligning with earlier findings. The faculty variable, with a mean of 1.6765 and a mode of 1.00, indicates that most respondents belong to the first faculty category, although there is notable variability (SD = 0.91372). The semester variable has a mean of 5.0588 and a mode of 4.00, reflecting a diverse range of semester representations among respondents. Age, categorized from 1 to 5, shows a mean of 1.9608 and a mode of 2.00, suggesting a concentration of participants in their early twenties. Lastly, the race variable, with a mean of 2.4412 and a mode of 3.00, indicates diverse racial representation, predominantly in the third category.

Table 2  
Gender

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

In the gender distribution of the dataset, 32 respondents (31.4%) identified as male, while 70 respondents (68.6%) identified as female. This indicates a significant predominance of female participants, constituting nearly two-thirds of the sample. The total number of valid responses is 102, reflecting a complete dataset with no missing values.

Table 3  
Faculty

		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 faculty distribution among the respondents reveals that 55 participants (53.9%) are from the Business/Technology & Accounting faculty, making it the largest group. Following this, 34 respondents (33.3%) belong to the Education faculty. The Foundation faculty comprises 4 participants (3.9%), while the "Other" category includes 9 respondents (8.8%).

Table 4  
Semester

		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 distribution of respondents by semester indicates a diverse range of academic progression among the 102 participants. Only 3 respondents (2.9%) are in the first and second semesters, while 10 participants (9.8%) are in the third semester. The fourth semester has the highest representation with 23 respondents (22.5%), closely followed by the sixth semester, also with 23 participants (22.5%). The fifth semester includes 21 respondents (20.6%), and the seventh semester has 12 participants (11.8%). Additionally, the eighth semester accounts for 5 respondents (4.9%), while only 2 participants (2.0%) are in the ninth semester. This distribution shows a notable concentration of students in the middle semesters, which may influence their perspectives and behaviors related to purchase decisions in the study.

Table 5  
Age

		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	

The age distribution among the respondents reveals that 69 participants (67.6%) fall within the 21 to 23 years old category, making this the largest group. Following this, 21 respondents (20.6%) are aged 18 to 20 years old. There are 9 participants (8.8%) in the 24 to 26 years old



category, while only 1 respondent (1.0%) is aged 27 to 30 years old. 2 participants (2.0%) are within the 31 to 49 years old range. The data indicates a predominant representation of younger university students, particularly those in their early twenties, which may have implications for understanding their consumer behavior and attitudes.

**Table 6**

*Race*

		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	

The race distribution among the respondents shows that the majority identify as Indian, with 56 participants (54.9%). This is followed by Malays, who make up 21 respondents (20.6%), and Chinese participants, numbering 20 (19.6%). 5 respondents (4.9%) fall into the "Others" category. The data indicates a diverse racial composition, with a significant representation of Indian respondents, which could influence the study's findings regarding cultural factors affecting purchase behavior and attitudes among university students.

*Normality Analysis*

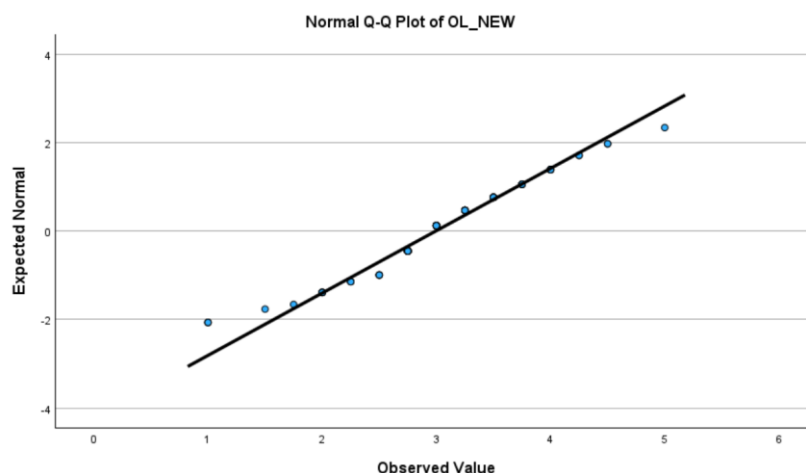


Figure 2 Normality Analysis

Based on Figure 1, the results show that the data points fall closely on the diagonal line, indicating a normal distribution of the sample. This alignment suggests that the assumptions for many statistical tests, which rely on normality, are met. A normal distribution indicates that the mean, median, and mode are approximately equal, further supporting the validity of the analysis. As a result, researchers can proceed confidently with subsequent statistical tests, knowing that the data is suitable for parametric analyses.

*Reliability Analysis*

Table 7

*Reliability Analysis*

Reliability Analysis	Cronbach's Alpha	No. of Items
Online Learning	.760	4
Limited Social Interaction	.750	5
Time Management	.819	4

The reliability analysis for the constructs demonstrates satisfactory internal consistency across the measures. The Online Learning construct has a Cronbach's Alpha of 0.760, indicating acceptable reliability with 4 items. The Limited Social Interaction construct shows a Cronbach's Alpha of 0.750, also reflecting adequate reliability with 5 items. The Time Management construct has the highest reliability at 0.819, based on 4 items, suggesting strong consistency in responses. These results indicate that the instruments used in the study are reliable for measuring the respective constructs.

**Correlation Analysis**

Table 8

*Correlation Analysis*

		OL_NEW	LSI_NEW	TM_NEW
OL_NEW	Pearson Correlation	1	.450**	-.065
	Sig. (2-tailed)		<.001	.518
	N	102	102	102
LSI_NEW	Pearson Correlation	.450**	1	.009
	Sig. (2-tailed)	<.001		.932
	N	102	102	102
TM_NEW	Pearson Correlation	-.065	.009	1
	Sig. (2-tailed)	.518	.932	
	N	102	102	102

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

The correlation analysis findings, presented in Table 8, provide crucial insights into the relationships among the variables studied. This research aimed to establish statistically significant associations between the dependent variable, limited social interaction, and the independent variable, online learning. A significance level of 0.05 or less is generally accepted to indicate statistical significance in such analyses.

The results reveal a significant correlation between online learning and limited social interaction, with a p-value of 0.001. This strong correlation suggests that variations in online

learning experiences are closely linked to changes in the extent of social interaction reported by participants. Specifically, as the engagement in online learning increases, it appears that the opportunities for social interaction decrease, or vice versa.

**Conclusion**

Hypothesis	Result
H1 : There is a relationship between limited social interaction and online learning.	Moderate positive range
H1 : There is a relationship between time management and online learning.	Very weak negative range

This research study discusses the impact of independent variables, particularly limited social interaction and time management factors, on the stress for online learning among university students. According to the findings of the study, Online learning has a moderate positive relationship with limited social interaction, with university students experiencing increased stress when social interaction decreases. Most instructors and learners are encountering this type of atmosphere for the first time, according to Kang and Im (2013), Swan (2003), Mehall (2020), Eom et al. (2006), Eom and Ashill (2016), and Lasfeto (2020). It is necessary to look at the efficacy of this sudden online learning. The findings imply that social interaction has a beneficial impact on the barriers to efficient learning. This suggests that social interaction is still important for delivering online learning effectively.

The second or last independent variable which is time management influence stress for online learning among university students. Online learning stress increases with decreased time management, suggesting that students struggling with time management may perform slightly worse or experience increased stress in online learning environments. Highly productive people, according to (Bazin, 2016), would arrange their days by prioritising tasks that needed to be completed on a particular day. Setting priorities helps someone who has limited time to concentrate entirely on doing critical work and avoiding time wasters. But one must exercise self-control to stay focused and avoid becoming sidetracked from finishing the things on their to do list. In citing of Macan et al. (2000) , "The secret to achieving success in life is effectively managing this resource that everyone possesses equally and paying sufficient emphasis to planning," as stated by Nasrullah and Saqib Khan (2015, p. 66).

The study's sample size can be increased by future researchers, which will help to obtain a positive correlation and boost the research's credibility. In addition, future research studies evaluating students' should incorporate other characteristics. This is because there are numerous other factors that may influence stress for online learning among university students, in addition to the two factors (limited social interaction and time management).

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