



THE IMPACT OF REMOTE LEARNING ON STUDENT'S MENTAL HEALTH AT INSTITUT KEMAHIRAN TINGGI PERDA

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Abstract

The abrupt transition to online learning during the COVID-19 pandemic has significantly impacted students' psychological well-being, particularly those at Institut Kemahiran Tinggi Perda. This study aimed to explore the relationship between online learning, fear, anxiety, depression, and psychological distress among students. Using a quantitative research design, data were collected through surveys distributed to a sample of 100 students. Out of the total, 80 students responded, yielding a response rate of 80%. The sample was selected using a random sampling technique, targeting students who had experienced remote learning to ensure relevance to the research objectives. The collected data were then analyzed using appropriate statistical methods to determine the significance of the identified relationships. The findings revealed a statistically significant relationship between online learning and psychological distress, exacerbated by a lack of social interaction and the abrupt shift to remote education. Additionally, fear, anxiety and depression were identified as key contributors to student's psychological distress, with anxiety showing the strongest correlation. These results suggest that the mental health challenges faced by students during remote learning are multifaceted, involving both the direct effects of online learning and the broader emotional responses to the pandemic. The study highlights the need for educational institutions to recognize and address these psychological challenges. Future research should expand the population sample for a more representative analysis and incorporate qualitative methods to gain deeper insights into students' experiences. By understanding these dynamics, institutions can develop strategies to create a more supportive learning environment, mitigating the negative impacts of remote learning on student's mental health. This research provides valuable insights for educators and policymakers seeking to enhance the resilience and well-being of students in the face of ongoing educational disruptions.

Keywords: *Remote Learning; Mental Health; Fear; Depression; Anxiety; Psychological Distress*

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INTRODUCTION

Online learning, defined as the process of acquiring knowledge through digital platforms such as Webex, Zoom, Google Meet, and WhatsApp, has become an essential component of education during the COVID-19 pandemic. This mode of instruction is conducted entirely online, requiring consistent internet access and the availability of technological resources such as laptops, email accounts, and productivity software like Microsoft Office. However, the transition to online learning has introduced significant challenges, particularly concerning students' mental health. The stress and tension arising from the need to meet various technological prerequisites can negatively impact students' academic performance, learning preferences, and daily routines (Perveen, 2016). The ongoing COVID-19 pandemic has exacerbated these challenges, making it crucial to maintain students' mental health to ensure their overall well-being. This study seeks to explore the impact of online learning on psychological distress, specifically focusing on the effects of anxiety and depression among students at Institut Kemahiran Tinggi Perda, Penang.

The COVID-19 pandemic has the potential to cause long-term effects on students' mental health and well-being, particularly for those who have experienced prolonged lockdowns, school closures, and disruptions to their education (UNICEF, 2024). According to the American Psychological Association (APA, 2024), the usual indicators that teachers rely on to identify students experiencing mental health challenges may not be as evident during periods of online instruction. Psychological distress is a critical factor in understanding the emotional and mental health difficulties students may face due to stressful or upsetting experiences (Storrie, Ahern & Tuckett, 2010). Recognizing the signs of psychological distress allows researchers to assess the impact of various factors on students' mental health. Symptoms of psychological distress can manifest in behavioral changes and abnormal responses, which can significantly affect students' ability to cope with academic demands (Drapeau, 2016).

Malaysian public health officials have indicated that managing the COVID-19 pandemic will require months of sustained effort, rather than mere weeks. In response, former Prime Minister Tan Sri Muhyiddin Yassin implemented home-based learning to minimize disruptions to education. This shift urged Malaysian educational institutions to adopt online learning, compelling teachers and lecturers to transition to digital platforms, even if they were not initially well-versed in technology (Kamenetz, 2020). The abrupt shift from face-to-face instruction to online learning during the lockdown phase created unprecedented challenges for both educators and students (Baczek, 2021). As a result, online learning emerged as the primary mode of instruction, valued for its flexibility, accessibility, and convenience (She, 2021).

Thompson (2022) highlights that anxiety disorders may be exacerbated by the uncertainty and lack of control over personal and academic situations, making it imperative to investigate the specific stressors and manifestations in the context of remote education. This study, therefore, aims to examine the effects of online learning on students' mental health, focusing on the impact of online learning and anxiety on students at Institut Kemahiran Tinggi Perda, Penang.

A potential consequence of prolonged psychological distress in the context of remote learning is depression. The World Health Organization (2019) defines depression as a condition characterized by persistent feelings of sadness, hopelessness, and a lack of interest in activities. Zhang (2020) further notes that social isolation, academic difficulties, and disruptions to daily routines associated with virtual classrooms can trigger or worsen depressive symptoms.

This study seeks to investigate the impact of online learning on the mental health of students at Institut Kemahiran Tinggi Perda, with a specific focus on how online learning, anxiety, fear, and depression contribute to psychological distress. The findings from this research may provide valuable insights into developing appropriate psychological support strategies to enhance the mental health and well-being of students.

LITERATURE REVIEW

Student Psychological Distress

Since the onset of the COVID-19 pandemic, national authorities worldwide have been grappling with strategies to manage the crisis. Among these, online learning platforms have replaced traditional in-person and self-directed learning systems, leading to increased mental strain as students adjust to new circumstances across various aspects of life. The lack of interpersonal interactions further exacerbates this issue. As noted by Grigorkevich (2022), while remote learning serves as an effective measure to prevent the spread of COVID-19, it poses significant risks to the mental health of college students. Commonly reported problems include stress (ranging from mild to severe), social media fatigue, fear, depression, anxiety, and loneliness. Psychological distress is associated with numerous illnesses and is a key indicator of poor mental health, often leading to negative health outcomes and chronic immune activation. Individuals experiencing elevated stress levels are more prone to both physical and psychological disorders (Nambiar, 2020). These findings suggest a marked increase in prevalence rates during the COVID-19 pandemic.

Psychological distress among students has been linked to various illnesses, signifying poor mental health. Stress not only has negative health effects but also contributes to chronic immune activation. During the pandemic, there was a notable rise in the prevalence of psychological disorders among students. For example, an Austrian online survey revealed higher rates of anxiety and depression symptoms among younger age groups. Similarly, a study in Bangladesh found that 37.7% of college students suffered from extreme stress, which contributed to insomnia, anxiety, and poor academic performance.

Online Learning

Online learning, the process of acquiring knowledge and skills through digital platforms and the internet, encompasses a broad spectrum of educational opportunities—from fully online programs to supplementary materials for traditional classroom settings. Online classes can be synchronous, where students and teachers engage in real-time communication, or asynchronous, allowing students to work through content at their own pace.

This educational approach leverages a variety of digital tools, including virtual classrooms, learning management systems (LMS), and multimedia resources (Zeng & Wang, 2021). The flexibility, accessibility, and often self-directed nature of online learning enable students to tailor their educational experiences to their specific needs and circumstances (Anderson & Elloumi, 2004). However, the current study suggests that online learning may also contribute to students' psychological distress.

Fear

The fear associated with COVID-19, driven by the virus's rapid spread, school closures, social distancing, and unexpected lockdowns, has led to psychological distress and other negative emotional responses among students. The sudden shift to remote learning, initially perceived as a temporary measure, has amplified students' fears. This

often unspoken and unseen fear is a significant contributor to their psychological distress (Odrizola-Gonzalez, 2020). Zhang (2020) notes that students infected with COVID-19 may experience social exclusion and stigmatization, further increasing their risk of mental health issues, including depression and anxiety. Mental health challenges have widespread implications, affecting individuals' overall well-being, psychological health, and societal interests.

The literature suggests that fear of COVID-19 negatively impacts life satisfaction. Currently, the ongoing pandemic is casting a shadow over students' mental health, highlighting the need for support to help them manage these emotions and improve their well-being (Hwang, 2021).

Anxiety

Anxiety, one of the most prevalent and pervasive emotions, is characterized by the tense anticipation of something threatening yet uncertain (Rachman, 1998). It manifests as a feeling of restless suspense. While anxiety shares certain features with other emotions, it tends to be more acute and episodic, with a distinct and focused emphasis. Psychologically, anxiety is defined as a persistent sense of unease that can arise in response to potential challenges or threats (Stein & Sareen, 2015). Passavanti (2021) demonstrates that remote learning has impacted students' mental health, suggesting that compared to in-person instruction, remote learning may result in reduced social interaction, potentially leading to psychological issues for students. The current study hypothesizes that depression and anxiety significantly influence students' psychological distress, making this the focus of the present research.

Studies have indicated a notable increase in mental health issues during similar viral outbreaks, including post-traumatic stress disorder, anxiety, and depression (Hossain, 2020). During the recent COVID-19 pandemic, students worldwide reported elevated levels of stress, anger, anxiety, and despair (Kumar & Somani, 2020). The widespread adoption of distance learning introduced new challenges and difficulties for students, with college students' mental health anticipated to be significantly impacted by this major shift. Remote learning, which became the preferred mode of instruction in most countries, brought additional concerns and challenges for students. An interview-based survey study found that the COVID-19 pandemic increased anxiety levels among college students due to health-related concerns, concentration issues, sleep disturbances, reduced social interactions, and worries about academic performance (Hossain, 2020). Another study identified disruptions to academic routines and daily life as risk factors for anxiety and depression during the pandemic (Noor Aina, 2021).

Huberty (2009) explains that anxiety affects students' physiology, behavior, and cognition. For example, high-stakes assessments can be particularly challenging for students with anxiety. These students often struggle academically, finding it difficult to concentrate, remember information, and complete tasks. Persistent anxiety can lead to physical symptoms such as fatigue, insomnia, and headaches, which can further hinder academic performance. Moreover, untreated anxiety increases the risk of depression, substance abuse, and other mental health issues, underscoring the importance of early detection and support. Depression can also afflict anxious students, and Huberty suggests that parents and teachers should collaborate to help adolescents cope with anxiety. Nadeem (2012) also highlights that anxiety negatively impacts students' academic performance, with both male and female students performing worse academically as their anxiety levels increase.

Depression

Depression is more than just a fleeting feeling of sadness; it is a common and chronic mental illness that can profoundly impact a person's emotions, thoughts, and behaviors. Students may experience and exacerbate

depression symptoms due to social integration pressures, performance expectations, and uncertainty about the future. Previous studies by Serafini (2020) indicate that the main psychological responses to pandemics and epidemics include emotional disturbances, depression, anxiety, stress, mood changes, irritability, insomnia, post-traumatic stress disorder symptoms, anger, emotional exhaustion, fear, confusion, grief, and numbness. These findings suggest that pandemics and epidemics have significant and harmful psychological effects on students' mental health, both in the short and long term, ranging from panic attacks to widespread feelings of despair and hopelessness, which are associated with detrimental outcomes such as suicidal thoughts and behaviors.

Depression as a mental health issue frequently requires students to confront and manage intense emotions. As they navigate these emotional challenges, students with depression may develop greater emotional resilience in the classroom. Their ability to endure and overcome hardships is strengthened by the ongoing psychological stress they experience. Additionally, neglecting social activities and safety measures can lead to loneliness and isolation, contributing to fear, depression, stress, and anxiety (Noor Aina, 2021). Addressing depression and anxiety disorders early on can better prepare students academically.

Depression is one of the most common mental health issues and a significant health concern for students (Ibrahim et al., 2013). Furthermore, Arslan (2009) emphasizes that depression significantly impacts academic achievement, satisfaction, and performance. Research by Wechsler, Lee, Kuo and Lee (2000) shows that students exhibiting depressive symptoms tend to perform worse academically and participate less in class than those without such symptoms. The results indicate that depression is a significant issue that requires psychological treatment for most students. Therefore, there is strong evidence suggesting that remote learning may contribute to depression, affecting students' mental health.

METHODOLOGY

This study employs quantitative research methods to reinforce the inquiry into research with measurable outcomes and distinctiveness (Henson, 2020). The research conducted using an online survey created through Google Forms. A random sampling method was chosen for this study, targeting students who enrolled in the year 2022 and experienced online learning directly. The total student population at Institut Kemahiran Tinggi Perda is 300. However, for this study, the sample will consist of 100 students enrolled in 2022.

The study uses direct data collection through a questionnaire carefully structured into six sections for efficient grouping. The first section focuses on collecting basic information related to the respondents' demographic and academic backgrounds. This includes variables such as age, gender, educational level, and field of study, providing essential context for understanding the population under investigation. The second section addresses psychological distress, which serves as the dependent variable in this study. It includes six items adapted from the Kessler Psychological Distress Scale (K6, 2002), using a five-point scale to assess the frequency of distress experienced by students. The scale ranges from 1 (None of the time) to 5 (All the time), capturing varying degrees of psychological strain.

The third section examines the independent variable of online learning. This section features six items derived from the Student Perspectives of Online Learning (OL, 2023), which gauge students' perceptions and experiences with online learning environments. Responses are recorded on a five-point Likert scale, from 1

(Strongly Disagree) to 5 (Strongly Agree), to reflect the level of agreement with each statement. The fourth section explores fear as another independent variable, specifically focusing on fear related to COVID-19. It comprises seven items adapted from the Fear of COVID-19 Scale (FCV-19S, 2019). Respondents indicate their level of agreement using a five-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

The fifth section measures anxiety levels, using seven items based on the Generalized Anxiety Disorder 7-item (GAD-7) scale developed by Spitzer et al. (2006). This section utilizes a four-point scale to reflect how frequently respondents experience anxiety symptoms, ranging from 0 (Not at all) to 3 (Nearly every day). Lastly, the sixth section assesses depression, incorporating five items adopted from the WHO-5 Well-being Index (World Health Organization-Five Well-Being Index, WHO-5, 2024). The response scale ranges from 0 (None of the time) to 5 (All the time), capturing the frequency of positive emotional well-being experienced by the participants.

The collected data analyzed using SPSS version 26. Various statistical methods employed, including regression analysis, Pearson correlation, frequency analysis, and reliability testing. The frequency analysis used primarily for categorical variables. SPSS software will be instrumental in evaluating the adequacy of the sample size and the outcomes of the study through reliability testing, regression analysis, and Pearson correlation.

RESULT AND DISCUSSION

Reliability Analysis

Reliability measures were used to evaluate the consistency of the questionnaire used in the study, as described by Saunders (2007). Table 1 illustrates the Cronbach Alpha values for various variables, indicating the internal consistency of the items. Four variables exhibited high reliability with Cronbach Alpha values exceeding 0.8: Fear (0.863), Anxiety (0.882), and Depression (0.904). The reliability for Student’s Psychological Distress was slightly below this threshold at 0.798, but it is still considered acceptable. However, Online Learning had a significantly lower Cronbach Alpha of 0.229, suggesting a lack of reliability for this variable, which might indicate inconsistencies in the items measuring this construct.

Table 1: Cronbach Alpha

Variables	Cronbach’s Alpha
Student’s Psychological Distress	.798
Online Learning	.229
Fear	.863
Anxiety	.882
Depression	.904

Descriptive Statistics

The data collected from respondents were analyzed to determine the mean and variability of the independent variables, as presented in Table 2. The analysis shows that Online Learning had the highest mean score (3.6721) with a standard deviation of 0.43996, suggesting that students generally perceived online learning positively. Conversely, Anxiety had the lowest mean score (0.9589) with a standard deviation of 0.75531, indicating relatively low anxiety levels among students. The mean scores for Fear and Depression were 2.9625 and 2.5825, respectively, with standard deviations of 0.80964 and 1.28050.

Table 2: Mean and Standard Deviation of Independent Variables

Dimension	Mean	Standard Deviations
Online Learning	3.6721	.43996
Fear	2.9625	.80964
Anxiety	.9589	.75531
Depression	2.5825	1.28050

Pearson Correlation Coefficient

Correlation analysis was conducted to assess the significance of the relationships between Student’s Psychological Distress and the independent variables: Online Learning, Fear, Depression, and Anxiety. The Pearson correlation coefficients (r) and significance levels (p) for these relationships are presented in Tables 3 to 6. Online Learning and Student’s Psychological Distress: The Pearson correlation coefficient was -0.73 with a p-value of 0.01, indicating a strong negative correlation. This suggests that as Online Learning increases, Student’s Psychological Distress decreases significantly.

Table 3: Relationship between Student’s Psychological Distress and Online Learning

	Pearson Correlation	Student’s Psychological Distress
Online Learning	r	-0.73**
	p	0.01
	n	80

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

Fear and Student’s Psychological Distress: The Pearson correlation coefficient was 0.197 with a p-value of 0.01, indicating a weak but significant positive correlation. This suggests that as Fear increases, Student’s Psychological Distress also tends to increase.

Table 4: Relationship between Student’s Psychological Distress and Fear

	Pearson Correlation	Student’s Psychological Distress
Fear	r	.197**
	p	0.01
	n	80

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

Depression and Student’s Psychological Distress: The Pearson correlation coefficient was -0.335 with a p-value of 0.01, indicating a moderate negative correlation. This suggests that as Depression decreases, Student’s Psychological Distress increases.

Table 5: Relationship between Student’s Psychological Distress and Depression

	Pearson Correlation	Student’s Psychological Distress
Depression	r	-.335**
	p	0.01
	n	80

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

Anxiety and Student’s Psychological Distress: The Pearson correlation coefficient was 0.554 with a p-value of 0.01, indicating a moderate to strong positive correlation. This suggests that as Anxiety increases, Student’s Psychological Distress also tends to increase.

Table 6: Relationship between Student’s Psychological Distress and Anxiety

	Pearson Correlation	Student’s Psychological Distress
Anxiety	r .554**	
	p	0.01
	n	80

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

Regression Analysis

A multiple regression analysis was conducted to determine the extent to which the independent variables (Anxiety, Online Learning, Fear, and Depression) predict Student’s Psychological Distress. The adjusted R-squared value of 0.288 suggests that approximately 28.8% of the variability in Student’s Psychological Distress is explained by these variables, indicating a moderate fit of the model.

Table 7: Table of Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimated
1	.570 ^a	.324	.288	.64784

- a. Predictors: (Constant), anxiety_avg, onlinelearning_avg, fear_avg, depression_avg
- b. Dependent Variable: studentpsychologicaldistress_avg

The ANOVA results, presented in Table 8, show a significant F value of 9.007 with a p-value of <0.0001, indicating that the regression model significantly explains the variation in Student’s Psychological Distress.

Table 8: Table of Anova

Model	Sum of square	df	Mean Square	F	Sig.
Regression	15.121	4	3.780	9.007	.000 ^b
Residual	31.477	75	.420		
Total	46.599	79			

- a. Dependent Variable: studentpsychologicaldistress_avg
- b. Predictors: (Constant), anxiety_avg, onlinelearning_avg, fear_avg, depression_avg

The regression coefficients presented in Table 9 indicate that Anxiety has the strongest positive predictive effect on Student’s Psychological Distress (B = 0.499, p < 0.0001). Fear also has a positive relationship with Student’s Psychological Distress, though the effect is weaker and not statistically significant (B = 0.044, p = 0.647). On the other hand, Online Learning and Depression do not have a significant predictive effect on Student’s Psychological Distress in this model.

Table 9: Regression between Related Variables

Model	Unstandardized B	Coefficients Std. Errors	Standardized Coefficients Beta	T	Sig.
1 (Constant)	2.247	.719		3.125	.003
Online Learning	-.048	.167	-.028	-.289	.773
Fear	.044	.095	.046	.460	.647
Depression	-.074	.064	-.124	-1.164	.248
Anxiety	.499	.108	.491	4.640	.000

a. Dependent Variable: Student's Psychological Distress

The findings from the correlation and regression analyses reveal that Anxiety is the most significant predictor of Student's Psychological Distress, followed by Fear. Online Learning shows a significant negative correlation with Student's Psychological Distress, suggesting that effective online learning environments may reduce psychological distress among students. However, the regression analysis suggests that Online Learning and Depression do not have a significant direct predictive effect on Student's Psychological Distress when controlling for other factors.

This study identifies a statistically significant relationship between online learning and students' psychological distress. The transition to online learning has led to disruptions in students' lives, primarily due to a lack of social interaction. This disruption is particularly evident among students at Institut Kemahiran Tinggi Perda, who rely heavily on learning through observing and interacting with their peers. The absence of spontaneous interactions and informal discussions limits the breadth of their learning experiences. Despite potential technological challenges, both teachers and lecturers were compelled to transition to online learning during the COVID-19 lockdown, as face-to-face instruction was no longer feasible (Kamenetz, 2020).

Furthermore, the study finds a statistically significant relationship between fear and psychological distress in students. Zhang (2020) supports this finding, noting that students who have COVID-19 or fear contracting it may experience social exclusion and stigmatization. This fear and panic can increase the risk of mental health issues, such as depression and anxiety. The sudden shift to remote learning, initially seen as a temporary solution, has exacerbated students' fears, leading to significant psychological distress, often unspoken and unseen (Odriozola-Gonzalez, 2020). Mental health issues not only affect individual well-being but also have broader societal implications.

Depression, as another independent variable, also shows a statistically significant relationship with students' psychological distress. Data analysis indicates that depression is a significant contributor to psychological distress among students. Previous studies by Serafini (2020) have documented the emotional disruptions caused by pandemics and epidemics, including sadness, anxiety, stress, mood swings, irritability, insomnia, symptoms of PTSD, anger, emotional weariness, fear, confusion, grief, and numbness. These findings suggest that pandemics and epidemics can have long-term, substantial, and dysfunctional psychological effects on students' mental health.

Lastly, anxiety is identified as having a strong relationship with students' psychological distress. This study finds a statistically significant link between anxiety and psychological distress, consistent with a comprehensive linear regression analysis. Rachman (1998) describes anxiety as one of the most common and prevalent emotions,

characterized by a tense anticipation of something intimidating yet unclear, resulting in restless suspense. While anxiety shares certain characteristics across individuals, it tends to be more acute and episodic, with a clear and focused emphasis. In psychological terms, anxiety is defined as an enduring feeling of unease that can develop in response to prospective challenges or risks (Stein & Sareen, 2015).

To enhance future research on the positive influences of online learning, anxiety, and depression on students' psychological distress, several recommendations should be considered. Firstly, researchers should aim to expand the participant pool to create a more representative and diverse sample. By including a larger and more varied population, future studies can offer a more comprehensive understanding of the relationships between online learning, anxiety, and psychological distress. This would also allow for a broader perspective on how these factors interact and influence students' mental health.

Secondly, future researchers are encouraged to incorporate a mixed-methods approach by combining quantitative analysis with qualitative or hybrid methodologies. Qualitative methods, such as focus groups and interviews, can capture the nuanced experiences of students regarding online learning and anxiety during remote education. This approach would provide deeper insights into the specific challenges faced by students at Institut Kemahiran Tinggi Perda, allowing for a more tailored understanding of how remote learning impacts their mental health. Implementing these recommendations would help future research generate more reliable and practical results, contributing to a more profound understanding of the impact of remote learning on students at Institut Kemahiran Tinggi Perda, Penang.

CONCLUSION

The findings of this study serve as a valuable academic resource for future researchers, offering insights into the relationship between online learning and students' psychological distress. These results suggest that Institut Kemahiran Tinggi Perda can create a more resilient and supportive learning environment by implementing proactive measures to address the challenges associated with remote learning. By recognizing and mitigating the negative effects of online education on students' mental health, the institution can foster a community that not only adapts to the evolving nature of education but also thrives in the face of challenges. This approach will contribute to the overall growth and well-being of the students.

In conclusion, the abrupt transition from full-time, in-person learning to remote education has placed significant stress on students, leading to a high prevalence of psychological distress. Addressing these issues is crucial to ensuring the long-term success and well-being of students in this new educational landscape.

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