

UNDERSTANDING THE EXPERIENCES OF UNIVERSITY STUDENTS FACING PSYCHOSOMATIC SYMPTOMS IN E-LEARNING

(MEMAHAMI PENGALAMAN PELAJAR UNIVERSITI MENGHADAPI GEJALA PSIKOSOMATIK DALAM E-PEMBELAJARAN)

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Submitted: 17-Nov-2023
Accepted: 18-Sep-2020
Revised: 18-Sep-2020
Published: 30-Jun-2024

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Abstract

The emergence of the COVID-19 pandemic has triggered a profound transformation in the field of teaching and learning (T&L) resulting in the transition from conventional face-to-face teaching to e-learning methods. This transition not only changed the educational landscape but also inflicted emotional and mental distress on educators and students. In Malaysia, university lecturers and students are grappling with the challenges that arise as a result of this sudden transition. They experience psychosomatic symptoms characterized by psychological factors such as stress, anxiety or depression. This article examines the psychosomatic symptoms among university students in Malaysia in the context of e-learning. Psychosomatic Symptoms Questionnaire-5 (PSQ-5) is used to measure the level of psychosomatic symptoms experienced by students. A comprehensive data set of 700 respondents was collected and analyzed using SPSS software. The findings of the study found that all respondents experienced moderate to severe psychosomatic symptoms. These findings are meaningful to policymakers in shaping the direction of T&L, especially in the face of challenges arising from the Education 5.0 paradigm. Therefore, it is important that psychosomatic symptoms are addressed to strengthen the education system and build a conducive environment so that the implementation of e-learning is more effective.

Keywords: COVID-19 pandemic, e-learning, psychosomatic symptoms, university students.

Abstrak

Kemunculan pandemik COVID-19 telah mencetuskan transformasi mendalam dalam bidang pengajaran dan pembelajaran (P&P) menyebabkan peralihan dari pengajaran bersemuka konvensional kepada kaedah e-pembelajaran. Peralihan ini bukan sahaja mengubah landskap pendidikan tetapi juga menimbulkan tekanan emosi dan mental terhadap para pendidik dan pelajar. Di Malaysia, pensyarah universiti dan pelajar bergelut dengan cabaran yang timbul akibat peralihan mendadak ini. Mereka mengalami simptom psikosomatik yang dicirikan oleh faktor-faktor psikologi seperti tekanan, kebimbangan atau kemurungan. Artikel ini mengkaji simptom psikosomatik di kalangan pelajar universiti di Malaysia dalam konteks e-pembelajaran. Psychosomatic Symptoms Questionnaire-5 (PSQ-5) digunakan untuk mengukur tahap simptom psikosomatik yang dialami oleh para pelajar. Satu set data menyeluruh yang terdiri daripada 700 responden telah dikumpulkan dan dianalisis menggunakan perisian SPSS. Hasil penemuan kajian mendapati semua responden mengalami simptom psikosomatik tahap sederhana hingga tahap teruk. Hasil penemuan ini bermakna kepada pembuat dasar dalam membentuk halatuju P&P, terutamanya dalam menghadapi cabaran yang timbul akibat paradigma Pendidikan 5.0. Oleh sebab itu, adalah penting simptom psikosomatik ditangani untuk memperkuatkan sistem

pendidikan dan membina persekitaran yang kondusif supaya pelaksanaan e-pembelajaran lebih berkesan.

Kata kunci: Pandemik COVID-19, e-pembelajaran, simptom psikosomatik, pelajar universiti.

1.0 INTRODUCTION

The COVID-19 pandemic has opened up space for changes in T&L methods. Before the pandemic, students relied entirely on their lecturers for learning. University students in particular often held face-to-face discussions with their lecturers to discuss topics they did not understand. When the world was attacked by the COVID-19 virus, traditional or face-to-face teaching methods could no longer be carried out. Considering the importance of education, knowledge delivery must be done in any situation. Policy makers in almost every country have made the decision to change traditional teaching methods to e-learning. While e-learning has many benefits, such as flexibility and accessibility, the sudden shift has caused challenges for both educators and students (Hasan & Khan, 2020). The challenges faced by both educators and students in adapting to the new e-learning environment, including issues related to technological infrastructure, access to resources, emotional and mental pressures that can arise from the sudden change. Also, the lockdown during COVID-19 has affected university students' emotional symptoms, happiness and work-life balance. Happiness protects against negative emotions, while an unbalanced work-life suffer them (Wan Mohd Yunus et al., 2021). Furthermore, it was found that a significant proportion of students reported a negative impact on their social interactions during the period of remote learning, indicating that e-learning had a detrimental effect in this regard (Abdul Razak et al., 2021; Abdul Razak et al., 2022).

Emotional and mental pressures can lead to psychosomatic symptoms in individuals (Satsangi & Brugnoli, 2018). Psychosomatic symptoms refer to physical symptoms that are caused or aggravated by emotional or psychological factors. For example, stress and anxiety can lead to headaches, stomach aches and other physical symptoms. Research done by Zidkova (2021) showed that the pandemic was associated with increased psychosomatic symptoms and negative emotions. The study also found that younger people and women were at a higher risk of experiencing health complaints. Respondents with secondary school education, students and highly spiritual people might also be at higher risk. Furthermore, studies have shown that prolonged exposure to online activities can lead to mental health problems for users (Mheidly et al., 2020). During the COVID-19 pandemic, the results indicated that the universities students experienced significant levels of depression and anxiety classified as "severe" (Kechil et al., 2022). Students who face pressure and issues of anxiety and depression are more likely to engage in cheating and plagiarism in their assessments (Abd Rahman et al., 2021). If these acts of cheating and plagiarism are not curbed, the students produced by such a university will not be of quality. Therefore, the issues of pressure, anxiety and depression need to be addressed from the beginning to prevent them from contributing to cheating and plagiarism.

Amid the growing concerns regarding the mental health of university students during the COVID-19 pandemic and lockdowns, this study was conducted to provide a deeper understanding of the factors that contribute to their experience of psychosomatic symptoms. In addition, this study aimed to explore the impact of the sudden implementation of e-learning on students' mental health and to propose strategies to address these challenges before they escalate into more serious issues. Through this investigation, the study aimed to uncover potential solutions that can be utilized to enhance the mental health and well-being of university students, should they encounter similar challenging situations in the post-pandemic era.

2.0 METHODS

In order to conduct this study, an online survey was developed using a five-point Likert scale format. The survey was created using Google Forms and distributed to participants via WhatsApp and Telegram chat groups consisting of students and instructors from various universities. A total of 700 responses were collected during the period from November, 2020 to October, 2021. The collected data was analysed using SPSS software to identify trends and patterns in the responses.

The psychosomatic impact of COVID-19's e-Learning Digital Tools (CeLDT) questionnaire, as described by Haider and Al-Salman in 2020, was utilized in this study. This questionnaire is a tool that measures the psychosomatic impact of using digital tools for e-learning during the COVID-19 pandemic. It consists of a set of questions that assess various aspects of psychosomatic symptoms, such as sleep disorders, headaches and fatigue, that may arise as a result of prolonged use of e-learning digital tools. The questionnaire items are rated on a five-point Likert scale ranging from 1 (never) to 5 (always).

This study employed not only the CeLDT questionnaire but also integrated the 4-item Patient Health Questionnaire-4 (PHQ-4) developed by Kroenke et al. (2009). The PHQ-4 is a widely used screening tool that consists of four questions for detecting both depression and anxiety in clinical and research settings. The questions inquire about the frequency of certain symptoms experienced, including depression, anxiety and stress. This additional questionnaire has been added to obtain a more comprehensive understanding of the mental health status of the participants in relation to their e-learning experience.

In this study, we aimed to gain a more comprehensive understanding of the impact of e-learning on the psychological and physical health of the respondents. To achieve this, we used the instrument called the Psychosomatic Symptoms Questionnaire-5 (PSQ-5) developed by Kechil et al. (2022) which is the integrated of two questionnaires: the CeLDT questionnaire, which measures the psychosomatic impact of e-Learning digital tools, and the PHQ-4 questionnaire, which assesses psychological distress. The PSQ-5 is presented in Table 1.

Table 1: PSQ-5

Score	Item
1	Little interest or pleasure in doing things.
2	Not being able to stop or control worrying.
3	Undecided.
4	Feeling down, depressed or hopeless.
5	Feeling nervous, anxious or on edge.

Figure 1 shows the flowchart of the integration of CeLDT and PHQ-4 as well as the process of PSQ-5.

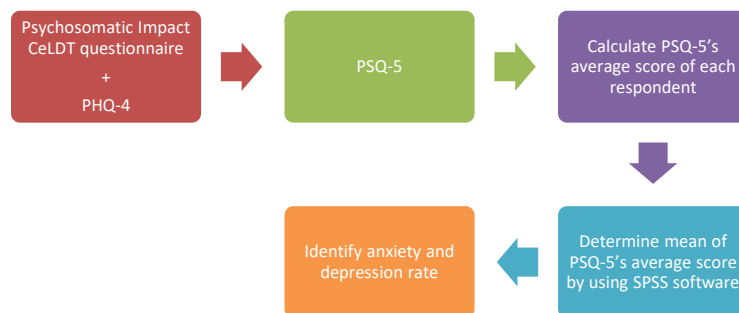


Fig. 1: The Process of Identifying Anxiety and Depression Using PSQ-5

After collecting the data from the respondents using the integrated questionnaires, the mean of their average score was calculated to determine their level of depression and anxiety. Kechil et al. (2022) classified scores below 1.0 as "normal", while scores ranging between 1.1 and 2.0 indicated "mild" depression and anxiety. Respondents with scores between 2.1 and 3.0 were classified as having "moderate" depression and anxiety, whereas scores between 3.1 and 4.0 indicated "moderately severe" levels of depression and anxiety. Finally, anyone with scores between 4.1 and 5.0 was classified as having "severe" depression and anxiety. The classified scores of PSQ-5 are presented in Table 2.

Table 2: Classified Scores of PSQ-5

Score	Level of depression and anxiety
0 – 1	normal
1.1 – 2.0	mild
2.1 – 3.0	moderate
3.1 – 4.0	moderately severe
4.1 – 5.0	severe

3.0 DISCUSSION

The questionnaire comprised 10 items, and the Cronbach's Alpha value for the survey was $\alpha = 0.8873$, indicating a high level of internal consistency among the survey items related to perceptions and experiences in online learning.

Table 3 displays the findings of the study concerning the percentage of psychosomatic impact based on responses to the PSQ-5. The first research question (RQ1) aimed to explore participants' perspectives on the effects of continuous exposure to electronic screens in online learning. The results revealed that 75.1% of the respondents (526) reported feeling tired and exhausted, which correlated with experiences of depression, hopelessness, as well as nervousness, anxiety or a constant state of unease. These findings suggest that prolonged screen time in online learning may have detrimental psychological effects on students and align with research done by Neophytou et al. (2021).

Regarding RQ2, which investigated the potential for extended use of e-learning tools to induce boredom, nervousness and tension, 64.4% of the respondents (451) agreed with this proposition. This indicates that students may experience negative psychological symptoms when they are required to spend lengthy periods in front of electronic screens.

RQ3 examined participants' ability to control or halt their worrying. The results indicated that at least 77.7% of the respondents (544) believed that the psychological aspect played a vital role in educational success. This finding aligns with prior research by Gutiérrez et al. (2018), who argued that meeting basic psychological needs is crucial for achieving academic success.

Based on the results of RQ4, 68.3% of respondents (478) agreed that e-learning had a socially and psychologically detrimental impact. Furthermore, the findings from RQ5 revealed that 44.1% of respondents (309) experienced feelings of sadness, depression or hopelessness, as well as nervousness, anxiety or a constant state of unease when using digital learning tools, which likely contributed to their lower academic performance.

In response to RQ6, 65.3% of the respondents (457) expressed their preference for discontinuing e-learning due to its perceived negative social and psychological effects, which could lead to poor academic performance. Instead, they favoured face-to-face interactions, which they believed significantly contribute to their academic achievement. These findings align with a study conducted by Abdul Razak et al. (2021), which identified.

Additionally, RQ7 revealed that a significant portion of respondents (39.5%) were undecided about whether being unable to afford the necessary digital tools interpersonal interactions with peers, faculty and course content as the primary reasons for choosing face-to-face learning required for online learning would make them feel embarrassed and frustrated.

The findings of RQ8 demonstrated that 54.5% of respondents (382) identified COVID-19 as a key factor contributing to their stress, frustration and depression. Furthermore, RQ9 indicated that 65.8% of respondents (461) claimed that the volume of assignments given through e-learning resulted in confusion, frustration and poor performance.

Lastly, RQ10 revealed that 40.7% of respondents (285) found taking quizzes and exams online from home uncomfortable and nerve-racking. These findings are consistent with a study by Zou et al. (2021) which found that students expressed dissatisfaction with online assessments due to concerns about technological competence, lack of trust in the technology infrastructure and the perception that online assessments were excessively challenging.

Table 3: The Percentage of Psychosomatic Impact by Using PSQ-5

Research Questions	5-point Likert-Scale				
	Score %				
	1	2	3	4	5
RQ1: Continuous exposure to electronic screens in online learning is tiring and exhausting.	1.5	2.1	21.3	27.4	47.7
RQ2: Prolonged use of e-learning tools often leads to boredom, nervousness and tension.	1.3	5.0	26.3	33.7	33.7
RQ3: The psychological element is a key factor in the success of the educational process.	0.1	1.0	21.2	37.4	40.3
RQ4: I do not recommend continuing with the online learning model because it is socially and psychologically unhealthy.	3.5	5.5	22.7	32.6	35.7
RQ5: The use of digital learning tools is responsible for my low academic performance.	4.6	12.4	37.9	22.9	22.2
RQ6: Face-to-face interaction contributes significantly to boosting students' academic achievement.	2.4	5.1	27.2	27.2	38.1
RQ7: Some students cannot afford to buy all necessary digital tools, which is embarrassing and frustrating.	7.9	15.5	39.5	23.3	13.8
RQ8: Measures of lockdown, closures, and quarantine, brought by COVID-19 caused stress, frustration and depression.	2.0	8.5	35	31	23.5
RQ9: The volume of assignments via e-learning led to confusion, frustration and poor performance.	1.2	2.1	30.9	38.2	27.6
RQ10: Taking quizzes and exams online from home was not comfortable and made me nervous.	7.2	15.8	36.3	20.4	20.3

Table 4 presents the personal and demographic information of the respondents alongside their PSQ-5 scores. The data encompasses gender, age, levels of study and residential area.

In terms of gender, the sample consisted of 363 males (51.85%) and 337 females (48.15%). The mean PSQ-5 score for males was 3.80, with a standard deviation (SD) of

0.71, while females had a slightly higher mean score of 3.90 with an SD of 0.72. This suggests that there were slight variations in the mean scores based on gender, with females exhibiting slightly higher scores compared to males. Both genders fell under the category of moderately severe psychosomatic impact.

Regarding age, the majority of respondents were below 22 years old, accounting for 542 participants (77.42%). They had a mean PSQ-5 score of 3.80, with an SD of 0.70. There were 157 respondents (22.43%) in the 23-30 years age range, with a slightly higher mean score of 4.00 (severe) and an SD of 0.79. Only one participant (0.15%) fell into the 31-40 years age range, with a mean score of 3.90 (moderately severe) and an SD of 0.00. These findings indicate that age had some influence on the PSQ-5 scores, with the 23-30 years age group exhibiting the highest severity.

In terms of levels of study, the majority of respondents were undergraduate students, comprising 612 participants (87.40%). They had a mean PSQ-5 score of 3.80, with an SD of 0.72. There were also 46 postgraduate students (6.60%) with a mean score of 3.75 and an SD of 0.65. A smaller group consisted of 42 pre-diploma students (6.00%) with a mean score of 3.75 and an SD of 0.66. Undergraduate students had the highest representation, followed by postgraduate and pre-diploma students, with minor differences in their mean scores. All categories of respondents fell under the category of moderately severe psychosomatic impact.

In relation to the residential area, 333 respondents (47.58%) lived in urban areas, with a mean PSQ-5 score of 3.80 and an SD of 0.74. Suburban areas were home to 215 participants (30.71%) who had a mean score of 3.80 and an SD of 0.66. Lastly, 152 respondents (21.71%) resided in rural areas, with a mean score of 3.75 and an SD of 0.72. The distribution of respondents across residential areas showed no significant differences in the mean scores. All categories of respondents fell under the category of moderately severe psychosomatic impact

Table 4: Respondents' Personal and Demographic with PSQ-5 Score

No	Item		Total Sample		PSQ-5 Score	
			N	%	M	SD
1.	Gender	Male	363	51.85	3.80	0.71
		Female	337	48.15	3.90	0.72
2.	Age	Below 22 years	542	77.42	3.80	0.70
		23 – 30 years	157	22.43	4.00	0.79
		31 – 40 years	1	0.15	3.90	0.00
3.	Levels of Study	Pre-diploma	42	6.00	3.75	0.66
		Undergraduate	612	87.40	3.80	0.72
		Postgraduate	46	6.60	3.75	0.65
4.	Residential Area	Urban	333	47.58	3.80	0.74
		Suburban	215	30.71	3.80	0.66
		Rural	152	21.71	3.75	0.72

Table 5 provides insightful information regarding the respondents' internet and online learning experiences in relation to their PSQ-5 scores. The data reveals noteworthy patterns in terms of data plan limits, internet speed, learning style preference and satisfaction with e-learning.

Regarding data plan limits, it was found that 56.00% (392) of the respondents had unlimited data plans, with a mean PSQ-5 score of 3.70 and a standard deviation of 0.71. Conversely, 43.43% (304) had limited data plans, yielding a slightly higher mean PSQ-5 score of 3.90 and a similar standard deviation of 0.71. Interestingly, only 0.57% (4) of the respondents lacked a data plan but displayed the highest mean PSQ-5 score of 4.40, accompanied by a relatively low standard deviation of 0.48. These

findings suggest that the extent of data plan limits may be associated with varying levels of psychosomatic impact.

Concerning internet speed, 16.86% (118) of the respondents reported having fast internet speed, resulting in a mean PSQ-5 score of 3.75 and a slightly higher standard deviation of 0.73. The majority, 72.57% (508), had medium internet speed, corresponding to a mean PSQ-5 score of 3.80 and a similar standard deviation of 0.71. In contrast, 10.57% (74) had slow internet speed, yielding a slightly higher mean PSQ-5 score of 3.90 and a standard deviation of 0.70. This implies that respondents with faster internet speeds tended to exhibit a slightly lower psychosomatic impact compared to those with slower speeds.

Regarding learning style preference, 24.91% (174) of the respondents favoured face-to-face classes, resulting in the highest mean PSQ-5 score of 4.15 and a standard deviation of 0.61. On the other hand, 20.86% (146) preferred e-learning, exhibiting the lowest mean PSQ-5 score of 3.20 and a standard deviation of 0.67. The majority, 54.23% (380), preferred blended learning, which corresponded to a mean PSQ-5 score of 3.90 and a slightly lower standard deviation of 0.65. These findings highlight the potential impact of different learning styles on psychosomatic well-being, with face-to-face classes associated with a higher impact and blended learning with a relatively lower impact.

In terms of satisfaction with e-learning, 0.86% (6) of the respondents expressed very poor satisfaction, demonstrating the highest mean PSQ-5 score of 4.70 and a standard deviation of 0.67. Additionally, 4.00% (28) rated their satisfaction as poor, resulting in a mean PSQ-5 score of 4.55 and a higher standard deviation of 0.74. Conversely, 27.71% (194) considered their satisfaction as fair, yielding a mean PSQ-5 score of 3.90 and a standard deviation of 0.64. The majority, 49.57% (347), reported good satisfaction, with a mean PSQ-5 score of 3.80 and a slightly higher standard deviation of 0.69. Lastly, 17.86% (125) regarded their satisfaction as excellent, displaying the lowest mean PSQ-5 score of 3.60 and the highest standard deviation of 0.79. These findings emphasize the impact of satisfaction with e-learning on psychosomatic well-being, with lower satisfaction levels associated with higher psychosomatic impact.

Table 5: Information on Internet and OL with PSQ-5 Score

No	Item		Total Sample		PSQ-5 Score	
			N	%	M	SD
1.	Data Plan Limits	Unlimited data	392	56.00	3.70	0.71
		Limited data	304	43.43	3.90	0.71
		No data	4	0.57	4.40	0.48
2.	Internet Speed	Fast	118	16.86	3.75	0.73
		Medium	508	72.57	3.80	0.71
		Slow	74	10.57	3.90	0.70
3.	Learning Style Preferable	Face-to-face classes	174	24.91	4.15	0.61
		e-Learning	146	20.86	3.20	0.67
		Blended-learning	380	54.23	3.90	0.65
4.	Satisfaction of e-Learning	Very Poor	6	0.86	4.70	0.67
		Poor	28	4.00	4.55	0.74
		Fair	194	27.71	3.90	0.64
		Good	347	49.57	3.80	0.69
		Excellent	125	17.86	3.60	0.79

4.0 CONCLUSION

In conclusion, the COVID-19 pandemic has presented unprecedented challenges in the education sector, particularly with the shift to online learning. Despite the challenges, students have gained valuable experience in coping with psychosomatic symptoms and stress related to online learning. This experience can serve as a valuable resource for policymakers in developing appropriate guidelines to ensure the emotional and mental well-being of students facing the challenges of Education 5.0. By providing the necessary facilities, equipment, and support, students will be better equipped to handle the demands of this new paradigm of education. Moreover, the experience gained from coping with psychosomatic symptoms during online learning can be used to strengthen students' emotional resilience and adaptability, preparing them for the unpredictable challenges of Education 5.0 and beyond. Therefore, policymakers and educators must work together to ensure that students are not only academically prepared but also emotionally and mentally prepared to face the challenges of Education 5.0.

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