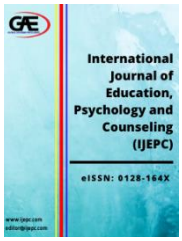
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DO HOME-BASED TEACHING AND LEARNING, TEACHER SUPPORT AND USE OF TECHNOLOGY DURING THE COVID-19 PANDEMIC LEAD TO MENTAL HEALTH PROBLEMS AMONG STUDENTS? A QUALITATIVE STUDY

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Abstract:

The aim of the study is to identify factors that may have influenced students' mental health during the COVID-19 pandemic. The qualitative approach was used to obtain data from respondents. Specifically, semi-structured interviews were conducted among secondary school students in Kedah, Malaysia. The results showed that Home-Based Teaching and Learning (*PdPR)*, teacher support and use of technology were among the factors revealed by students that influenced their mental health during the pandemic. This study adds to the literature on students' mental health by describing the interview responses among secondary school students in Malaysia. The findings of the study can be used by stakeholders such as the Ministry of Education (MOE) Malaysia and the National Population and Family Development Board (LPPKN) to formulate several strategies to reduce students' mental health problems in Malaysia.

Keywords:

Mental Health, Online Learning, Technology, Teacher Support, COVID-19

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Introduction

The outbreak of the disease or pandemic known as Novel Coronavirus (2019-nCoV) or better known as COVID-19 originating from Wuhan, Hubei, China infected humans around the globe (Huang et al., 2020). As the cases of infected people and deaths increased dramatically every day, most countries around the world took the initiative to close down educational institutions to stem the outbreak.

Various strategies for COVID-19 disease prevention and control measures were developed and implemented by the Malaysian government to curb the transmission of this virus infection, including, among others, the Movement Control Order (MCO), the Conditional Movement Control Order (CMCO), the Enhanced Movement Control Order (EMCO) and the Recovery Movement Control Order (RMCO) Essential practices of disease prevention and control were also introduced such as avoiding the 3S/3C (crowds, confined and closed conversations, and social distancing) and implementing the 3W (wash, wear, warn), as well as self-monitoring of health. In addition, public, private and other institutions were advised to implement Standard Operating Procedures (SOPs) in the workplace, as well as individual compliance with SOPs established in public places. To curb the transmission of COVID-19 infection among school students, the Ministry of Education Malaysia (MOE) also introduced a school opening management guideline. This guideline can be accessed from the MOE website.

The closure of educational institutions in Malaysia, including primary and secondary schools, changed the learning process in schools. Home-based Teaching and Learning (*PdPR*) or online courses were introduced to break the chain of COVID-19 infection among primary and secondary students. To ensure the implementation of *PdPR* was done effectively, MOE developed a manual to support *PdPR* as a new teaching and learning alternative. This manual can be accessed from the MOE website. Teachers use technology applications such as Google Meet, Zoom, and Webex in delivering online courses. This method benefitted some students, but some were uncomfortable with online instruction. Their mental health was affected by some of the obstacles they faced. These include unstable Internet access, the possibility of no network in rural areas, and the lack of monitoring and assessment of student engagement in online courses (Duan et al., 2020). Their mental health was also affected as they did not receive emotional support from teachers and friends (Sprang & Silman, 2013). In addition, excessive use of technology leading to smartphone/internet addiction were associated with increased student mental health problems (Duan et al., 2020). Low-income groups also experienced the highest mental health problems among adults and children (Yatim, 2020).

The above discussions revealed the significant impacts of several factors on students mental health problem worldwide, presenting a complicated challenge that demands urgent attention. Existing research has shown a broad overview of the occurrence of mental health problems but fails to capture the factors influencing these issues within the unique context of the COVID-19

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pandemic. While various interventions and support mechanism have been implemented to solve mental health problems among students, their effectiveness remain underexplored, particularly during the COVID-19 pandemic.

Furthermore, there are still theoretical and practical gaps in mental health issues among adolescents. This group is often overlooked during an epidemic (Duan et al., 2020). Therefore, this study will identify factors that may have influenced mental health problems among students during the COVID-19 pandemic, suggesting that the unique situations and challenges posed by the pandemic are central to understanding mental health issues among students.

Literature Review

Mental Health

Mental health is described by the World Health Organization (WHO, 2014) as a state of well-being in which a person understands their abilities, can cope with the stresses of everyday life, can work productively, and can contribute positively to their community (Burns & Fardfini, 2020). Previous studies have found that mental health problems increase based on self-report or clinical observations (Kim & Hagquist, 2018). In addition, some studies show that approximately 10-20 percent of children and adolescents worldwide are affected by mental illness, with mental disorders in adolescents and adults leading to large numbers of people living with disabilities (Maloney et al., 2020). In addition, prevalence estimates reported last year (14 percent for suicidal ideation and 9 percent for anxiety) continue to warrant public health attention to adolescent mental health and suicide (Griffin & McMahon, 2020). These studies indicate that mental health severity is significant among adolescents because of the possibility that they may choose to commit suicide. However, there are very few studies on the impact of the pandemic on mental health. According to Montag and Elhai (2020), the global COVID-19 pandemic in 2020 required social distancing/quarantine until unexpected adverse effects on international trade and mental health problems occurred when social pressure on society itself occurred. Similarly, studies showed that physical distancing and isolation over time, rising unemployment rates, economic insecurity, childcare vulnerability, unequal treatment and gender bias, housing instability, and food insecurity are among the most critical barriers to mental health problems associated with the spread of the epidemic (Jenkins et al., 2021).

Factors Affecting Mental Health

Online Learning and Home-Based Teaching and Learning

Based on empirical studies, many researchers categorise the dimensions of online learning into three aspects, namely implementation, teaching and learning facilities and student availability (Chang et al., 2021; Lischer, Safi & Dickson, 2022; Radwan et al., 2021; Zhang et al., 2020). The implementation of online teaching requires all parties involved, including the ministry of education, schools, teachers, and students to understand the procedure or method of implementation. For example, every student must have an electronic device such as a computer and good internet access. Referring to Radwan et al., (2021), online learning has a negative influence on the emotions of school students due to its imperfect implementation. This is due to problems such as poor internet access and incomplete learning facilities. At the same time, online learning challenges such as poor learning infrastructure, teachers who are less experienced in using technology, and unsuitable home environments also contribute to poor

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learning performance among students, and further affect their emotions and psychology (Ali , 2020).

In Malaysia, the Ministry of Education (MOE) introduced the *PdPR* to all schools in all states via e-learning or online. During the COVID-19 pandemic, a virtual teaching method, e-learning, was introduced, converting homes into classrooms and offering tutoring classes. Educators, on the other hand, suddenly found themselves in a world of new normative pedagogy. The impact of COVID-19 created a scenario where the education system relied on gadgets and social media. Online PdPR occurs when internet access and devices allow students to track their learning process in real-time (Awang Japilan & Saili, 2021). However, implementing *PdPR* requires students to use shielded electronic devices such as computers, laptops, tablets, and smartphones within a certain period.

Referring to Chang et al., (2021), online learning has an influence on depression among students because students are not prepared with online learning methods and activities. For example, students who study at home usually do not have a suitable and comfortable place or room to study (Zhang et al. 2020). In addition, many teachers who have no online learning experience are forced to do so with limited facility support (Hussein et al., 2020). This unavailability makes it difficult for students to understand the subject being studied. This situation indirectly affects the emotional and mental state of students throughout the online learning period. Thus, teacher support is very helpful for students to cope with this situation.

Use of Technology

Another factor that contributes to mental health among adolescents is technology. The lifestyles of adolescents and young adults are increasingly interdependent on technology. Data shows that around 92 percent of adolescents are online every day and 95 percent of adolescents have a smartphone (Wong et al., 2020). Nowadays, everything is just at the fingertips. Humans use technology in their daily lives such as Internet of Things (IoT) applications in many devices used for their daily activities. The uses of this technology include the use of the internet and smartphones. Although technology is suitable for humans, it can also harm human health. This is because too much exposure to technology can affect people mentally and physically. The COVID-19 pandemic led many countries to immediately shift jobs, schooling, social relationships, and health care to online channels (Sanci, 2020). In response to the COVID-19 pandemic, the dramatic shift to online technologies for health service delivery, research data collection, and education highlights the opportunities and threats of innovative technologies, particularly in terms of access inequity, inequality, and privacy issues. As a result, young people are increasingly spending more time on social networks and digital devices, such as smartphones, PCs, and televisions (Montag & Elhai, 2020). However, excessive use of technology can have negative effects on users. Smartphone and internet addiction are becoming more prevalent and serious issues. Smartphone addiction encompasses behaviors and psychological states that affect mental and emotional health, altering personal interactions due to overuse (Lee & Ogbolu, 2018). This addiction highlights the significant impact of technology on adolescent mental health. Additionally, exposure to technology has led to internet addiction among adolescents, contributing to the rise in mental health issues. Internet addiction involves a psychological dependence on online activities (Masaeli & Farhadi, 2021) and is classified as a delirium, impulsive disorder, or behavioral addiction (Lee et al., 2013). Consequently, technology use can significantly affect the mental health of adolescents.

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Methodology

The study uses a qualitative methodological approach. Qualitative research helps researchers provide detailed interpretations, descriptions, and explanations of a phenomenon without relying on numerical measurements. As Zikmund et al. (2013) explained, qualitative research focuses on obtaining real meaning and new insights. In the context of the study, qualitative research is essential to capture the richness and complexity of students experiences, particularly regarding mental health during the COVID-19 pandemic. In this study, a non-probability sample was used, i.e., purposive sampling. Purposive sampling is a method that allows researchers to rely on their judgment in selecting samples from the study population (Cresswell & Clark, 2011). The total sample for this study was 47 students from six secondary schools in Kedah, Malaysia.

The study employed a semi-structured interview for collecting data from respondents. The interviews were conducted online as requested by the Ministry of Education Malaysia (MOE). The interviews were recorded and evaluated. The data were collected relating to certain aspects: (1) perceptions on mental health and (2) factors may influence the mental health problems during pandemic. The online interview was conducted in six schools under the purview of Ministry of Education Malaysia in the state of Kedah. The interviewing process involved several procedures. Firstly, the researchers had to obtain permission from the Ministry of Education (MoE) and the Kedah State Education Department (JPNK) to initiate the interview sessions with the students. Secondly, after obtaining the approval from MoE and JPNK, the researchers had to contact the selected schools to seek approval from the respective headmasters/headmistress. Thirdly, formal arrangements were made, which includes application along with research details that were sent to the school through emails. Finally, follow-up was done by calling the school administration to get the approval for the interviews. The interviews with six selected schools involved 47 students from Forms 1, 2 and 4.

The qualitative data was analyzed using thematic analysis. Thematic analysis was the method used to identify, organize, and give better understanding in a theme form for a given set of data. This analysis enables the researchers to identify, understand the meaning and experience collectively (Barun & Clarke, 2006). Specifically, this research uses the thematic coding approach, where the process starts with getting data and later transforming them into categories and themes. The next conclusion was made based on the observation of the data. This technique was used to analyse interview data related to mental health issues/problems, factors that are related to mental health, and suggestion/preventive action to overcome mental health problem among students.

Results

The discussion on the findings was divided into subsections based on the interview questions. Students were asked about (1) perceptions on mental health and (2) factors that may influence mental health problems during pandemic. The answers given by students on the factors that influence mental health problem revolved around themes of PdPR implementation, teacher support, and use of technology during the COVID-19 pandemic.

Respondents' Background

The majority of the students were 14 -16 years old (38%), and most of the students who participated in the interview were female (68.09%), while the rest were male. Based on the number of siblings, the majority of the students had siblings ranging from 4 to 6 (53%). 34

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students had a total household of between 5 to 9 people and 12 students with households ranging from 1 to 4 people. Only one student had a household of between 10 to 14 people. The majority of them were staying in urban areas (36).

Perceptions on Mental Health

During the interview, students were asked general questions about mental health. The results of the interviews revealed that most students have a good understanding of mental health. However, their understanding is more focused on poor and problematic mental health.

The results showed that 61.7% of students thought it was related to a person's unstable emotions and the level of stress experienced. However, some students believe that mental health is associated with something positive. For example, it has something to do with a healthy mind that can think well and is not stressed. Below are a few answers on mental health provided by students.

- Stress as a result of thinking too much.
- A person's mental and emotional related problems.
- Unstable emotions.
- A person who cannot control their feelings.
- Poor mental health.

Students were also asked whether COVID-19 affected their emotions and psyche. The majority of them felt that their emotions and feelings were disturbed during the COVID-19 pandemic (87.2%). Below are the students' reasons.

- Infection of virus among family members.
- Changes in education landscape.
- Impact on social life.
- Impact of PdPR on academic performance and motivation to study.
- Impact on recreational activities.

Factors May Influence the Mental Health During Pandemic

Many answers given by students revolved around the implications of Home-based Teaching and Learning (PdPR), teacher support and the use of technology during the pandemic.

Home-based Teaching and Learning (PdPR)

Students were asked to give their opinions on whether Home-based Teaching and Learning (PdPR) led to emotional/psychological stress. The interview results found that 76.59% (36 students) said they felt depressed with PdPR, while only 23.41% (11 students) did not feel depressed. Among the reasons that cause PdPR to be stressful are:

- It is challenging to understand teaching content.
- Difficult to communicate with teachers.
- Lack of cooperation among classmates, particularly in completing assignments.
- Internet problems.
- Lack of support from parents and siblings.
- It takes much self-study.
- Long PdPR time.

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Furthermore, the findings also revealed that all students mentioned that the PdPR situation was different from learning in school. The majority of students noted that:

- PdPR caused them less motivation
- less effective
- less student participation
- difficulty in discussing with classmates.

This study managed to gain students' views concerning the challenges and difficulties faced during PdPR. Among the answers given are the following:

- Internet problems.
- It is difficult to understand the subject taught.
- A lot of homework needs to be completed on the appointed date.
- They have to share a computer or mobile phone with siblings.
- It is difficult to divide time between school assignments and homework.

Students were also asked on how to overcome the challenges/problems during PdPR. Below are the answers given by students:

- Refer to the teaching materials on the internet and discuss with classmates.
- Set up a timetable.
- Communicate with teacher if necessary.
- Join additional classes online.
- Talk to parents or siblings.

Teacher Support

The study obtained the student's opinion on the teacher's support during pandemic. Majority of students mentioned that:

- Teachers are good and can be made the place to seek assistance, advice and to share student's problems.
- Teachers cared about the students.
- students are very close to the teachers.

Suggestions on how teachers can help students to overcome challenges and difficulties due to *PdPR* and electronic devices usage during COVID-19 were explored in this research. Generally, majority of students suggested a few things that can be implemented by teachers. Among the suggestions are:

- Uploading information regarding syllabus of subjects in an appropriate application.
- Develop two way interactions among students and teacher.
- Provide information about the advantages and disadvantages of electronic devices usage.

Use of Technology

The research also explored whether electronic devices' extreme usage can give stress to student's emotions and psychology. The findings showed that majority of students stated:

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- extreme electronic device usage can give emotional and psychological pressure like getting lazy, angry, reducing face to face communication, getting bored, exposed to scams and depression.
- can affect their health like getting tired fast and headache.
- the effect on academic performance.

Students were also asked about the impact and benefits of using electronic devices in facilitating their daily activities. The answers given by students are as follows:

- Facilitate their learning process, such as *PdPR.*
- Easy to communicate with family and friends.
- Can access a lots of information.

Discussion

This study explores the factors that may influence students' mental health during the COVID-19 pandemic. Students were asked regarding (1) perceptions on mental health and (2) factors may influence the mental health problems during pandemic.

When the students have been asked about their perceptions on mental health, the majority of them suffered from emotional distress or felt disturbed during the COVID-19 pandemic, such as worrying that they or family members might be infected with the virus, being unable to study normally, and having limited contact with friends, teachers, and neighbors. These findings were consistent with Montag and Elhai (2020) where mental health problems occurred due to social pressure on society. Jenkin et al. (2020) also mentioned that factors such as prolonged physical distancing and isolation emerged as one of the significant barriers contributing to mental health challenges.

The implementation of PdPR, teacher support and use of technology during pandemic were found as main factors to influence students' mental health. For example, PdPR was perceived as emotionally/psychologically stressful as they struggled to understand the teaching content and to communicate with teachers and classmates. Furthermore, misuse of the internet and devices such as online gaming and surfing pornographic websites led to fatigue, lack of concentration, emotional disturbances, and lack of sleep. In particular, most students responded feeling depressed due to long hours of classes, difficulty in understanding the lessons, lack of cooperation among classmates to complete assignments, and disruption of internet access. This was compounded by unsatisfactory performance and a lack of motivation. These findings are in line with previous researchers who explain that online learning is not in demand among students due to limitations and problems such as communication problems between teachers and students, long learning times, and lack of participation in activities during online classes (Azmi, Khan & Azmi, 2022; Bing & Jamaludin, 2021; Fawaz & Samaha, 2021; Radwan et al., 2021). Additionally, Bing and Jamaludin (2021) explained that unstable internet access can lead to dropouts among students, especially in rural areas.

The majority of students also stated that the teacher's attitude is good and can ask for help and advice. Their relationship with the teacher is also good as mentioned by the majority of students. Positive teacher support such as caring and concern for students will make them respect and obey their teacher's instructions (Lei et al., 2018). This study proves that teachers play an important role, especially to overcome mental health issues among students.

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This study found that electronic device usage also influence students' mental health. Most of the students believe that the excessive use of electronic devices and the internet can have adverse effects on their emotions, psyche, and health. This is consistent with Jeong, Suh and Gweon (2020). They found that high levels of anxiety among adolescents in Korea due to excessive internet access and smartphone usage. These findings are also supported by Dong et al. (2020), which explained that adolescents in China suffer from depression, anxiety, and excessive stress due to internet use during the epidemic. Furthermore, the findings also revealed that the excessive use of mobile phones may affect emotional well-being, psychological health, and academic performance, leading to decreased focus on educational pursuits, exposure to unhealthy social behaviors, being exposed to online and social media scams, increased lethargy, and excessive time wastage. These situations indirectly will lead to mental health problems.

Based on the above discussion of findings, stakeholders are suggested to implement several strategies that can reduce the students' mental health problem in Malaysia, especially secondary school students. First, the Ministry of Education (MOE) Malaysia can develop an E-Learning Policy to ensure that the implementation of *PdPR* can be done effectively in future. This effort is also in line with the MoE's plan to enact the National Digital Education Policy with the aim of producing a digitally savvy generation that is competitive, nurturing digital talents who are knowledgeable, skilled and ethical in the use of digital technology.

Other than that, the National Population and Family Development Board (*LPPKN*) of Malaysia can enrich its role by providing psychological support to students especially in the context of online learning. For example, cultivating the use of digital technology among family members. This effort is an initial step to create awareness among family members in particular to support any changes in student learning as a result of dynamic technological changes. This role is expected to benefit the implementation of E-Learning by MOE. Next, in an effort to ensure the use of information technology is not misused, ICT teachers play a role in guiding and advising students, also ensuring that students will get benefit from the advancement of information technology in learning. ICT teachers can explain the consequences if they are not careful in sharing information through various platforms such as Instagram, Facebook, TikTok and Twitter. The negative implications of sharing personal information can lead to consequences such as suicide and extreme of anxiety.

Conclusion

The COVID-19 pandemic has drastically changed the lifestyle of adolescents/students. In particular, the Movement Control Order (MCO) gave students a new experience in dealing with social, mental, and learning process. Considering the importance of students' cognitive, psychological, and social development, this study focused on the aspects of their mental health so that the stakeholders such as parents, teachers, and the government could be aware of students' emotional and psychological development. Three factors have been highlighted by students that influenced their mental health during COVID-19 pandemic, which are PdPR implementation, teacher support and use of technology during the pandemic. These findings can be used as a guideline to formulate strategies or solutions to reduce mental health problems among students.

Future research could explore the effectiveness of various interventions tailored to different contexts. Additionally, longitudinal studies investigating the long-term impact of stressors on

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mental health outcomes could provide valuable insights. Interdisciplinary research that integrates from various perspectives could offer comprehensive understanding and solutions to mental health among students.

Some limitations were presented for this study. The respondents of the study only involved Form 1, 2 and 4 students and did not involve students from exam-year classes, i.e. Forms 3, 5 and 6. This is in line with the instructions from the Malaysian Ministry of Education and the Department of Education State so that this study would not interfere with their teaching and learning process throughout the period of this study. This study only examined three determining factors that affect students' mental health, namely environmental factors, education and technology. Each of these factors has been detailed based on specific dimensions obtained through qualitative research findings, and subsequently can be used as a basis for designing quantitative research instruments.

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