THE RELATIONSHIP BETWEEN PROBLEMATIC MOBILE PHONE USE, DEPRESSIVE SYMPTOMS AND SUICIDAL IDEATION

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ABSTRACT

The purpose of this study was to find out if there is a relationship between problematic mobile phone use, depressive symptoms and suicidal ideation through a small population of a University students to support other studies. This study involved 151 respondents including 74 male and 77 female students. The research instruments used included the Smartphone Addiction Scale (SAS) (10 items), Depression Anxiety Stress Scale (DASS-21) (21 items) and Beck Suicidal Ideation Scale (BSSI) (19 items). Pearson correlation analysis was used in this study. Pearson's correlation showed that there was a significant positive correlation between problematic mobile phone use and depressive symptoms and suicidal ideation.

Keywords: Problematic Mobile Phone Use, Depressive Symptoms, Suicidal Ideation, Students

1.0 INTRODUCTION

In many developed countries, the use of mobile phones is an important part of adolescents' lives, and the use of mobile phones has an impact on people's mental health and physical well-being (Girela-Serrano et al, 2022).Advanced mobile technology has not only replaced cell phones but also, at some point it replaced personal computers and a host of other devices. Smartphones are important nowadays and can be as a basic need to adolescents and adults (Li et al., 2021). People usually use smartphone to make calls, surf the internet, play video games, send e- mails, listening to music, keep track of appointment as well as making contact with others using the chat applications that popular in Malaysia such as Whatsapp, Telegram and interact on social networks such as Instagram, Facebook and Twitter（Busch & McCarthy，2021）. The use of this technology has been a critical factor in differentiating our everyday activities, behaviours, cultural values, family relationships and social interactions（Thompson & Warzel，2022）. In fact, the persistent 24 hours use or updating of our smartphone apps has been related to various issues such as depressive symptoms, suicidal ideation, stress and also sleep disturbances（Dai et al., 2021）.

Depression is the leading public health problem globally, with a prevalence of 4.7% (Ferrari et al, 2013).At the same time,depressive symptoms is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration(Thapar et al.,2022). Moreover,

depressive symptoms often come with symptoms of anxiety.It also leads to reduced work productivity, family dysfunction, substance abuse, suicide and reduced life expectancy (Vos et al., 2017). Depressive symptoms are often accompanied by anxiety symptoms. These ask may be long-lasting or recurring. （Bisgaard et al.，2022）. Major depressive symptoms are a mood disorder characterised by feelings of dissatisfaction, hopelessness, reduced activity and sadness, which severely disrupt and adversely affect the lives of patients (Iyer & Khan, 2012). Thus, at its most severe, depressive symptoms can lead to suicide attempts or death by suicide (World Health Organisation, 2012). Almost 1 million lives are lost yearly due to suicide, which translates to 3000 suicide deaths every day. For every person who completes a suicide, 20 or more may attempt to end his or her life (WHO, 2012).As a result, depressive symptoms are a major mental health contributor to the global burden of disease and disability, the consequences of which further contribute to a significant public health burden, including an elevated risk of dementia, premature deaths due to body dysmorphic disorder, and the impact of maternal depressive symptoms on child growth and development (Grossberg & Rice, 2023).

Suicidal ideation, also known as suicidal thoughts, is thinking about, contemplating, or planning suicide (Sander et al, 2023). Most people with suicidal thoughts do not attempt suicide, but suicidal thoughts are considered a risk factor (Van Meter et al,2023).Suicide is the second leading cause of adolescent death worldwide (Wang, Liu, Ko, Lin, Huang, Yeh, 2014). By identifying adolescents who are most at risk of suicide, mental healthcare professionals can focus their efforts on prevention and intervention （Efstathiou et al, 2022）. Suicidal thoughts are common, and many people experience them when they are undergoing stress or experiencing depressive symptoms （Hallford et al，2023）. In most cases, these are temporary and can be treated, but in some cases, they place the individual at risk for attempting or completing suicide (Ormel et al., 2022).

Not only that, but suicide is the third leading cause of death among 15-24 year olds and the second leading cause of death among college students (Imonova, 2023). Suicidal ideation is considered an important symptom of later suicide attempts and attempted suicides and is of great public health importance (Love & Durtschi, 2021). Suicide attempters think differently when they are in a suicidal state, and their distress and despair affect their ability to make decisions; therefore, their brains are unable to work flexibly or generate alternative solutions (National Alliance on Mental Illness, 2020).

2.0 METHODS

Through information sought classification, this study a quantitative and survey research since the purpose of this study is to investigate the relationship between problematic mobile phone use, depressive symptoms and suicidal ideation. Those variables will be observed using a structured questionnaire and the result will be in a form of statistical report. The survey method based on Schwarz et al.'s (1998) opinion is a specific method for collecting information involving a large population. According to Roopa & Rani (2012), data collection using questionnaires is the most frequently used method in research. In addition, a questionnaire could help researchers gather information on knowledge, attitudes, views, behaviours, facts and other important information (Martin, 2006). It will also facilitate researchers to obtain collaboration from respondents (Bihu, 2021). Researchers have been using this method as it is easy to administer and data is readily available and analysed (Addington-Hall, 2007).

Sampling methods are used to select samples from the overall population, and the correct sampling method is important to eliminate bias in the selection process and can reduce the cost or effort of collecting samples (Kim & Hwang, 2022). Researchers use convenience sampling method for their analyses. The researcher may decide to study the extent of their mobile phone use and help the researcher to answer the questionnaire by distributing Google Forms to the students of the University of Management and Science to find out if there is a relationship between mobile phone use and depressive symptoms and suicidal ideation. The population of this study was 150 people. In this study, the researcher used a questionnaire to collect information from the respondents. The questionnaire was prepared by the researcher before distributing the Google form to the respondents to answer the questionnaire and then the questionnaire was revised and modified and finally the supervisor was asked to approve the questionnaire. Once the questionnaire was approved, the researcher started distributing and collecting data.

In addition, this study was categorised as a cross-sectional design due to the fact that data were collected from different gender groups of students at only one point in time. In addition, in order to measure the degree of relationship between the two variables, this study used a correlation design. In this study, the researcher used Pearson correlation analysis to assess the degree of relationship. Correlation analysis is known to be the best way to measure the relationship between the variables of interest because it is based on the covariance method (Janse et al, 2021).

This study was conducted at the University of Management and Science, Shah Alam, Selangor. The researchers chose Selangor as the study site because the state has one of the highest number of depressive symptoms and suicidal ideation among adolescents in Malaysia according to the report of the National Health and Morbidity Survey (2017).

3.0 QUESTIONNAIRE DESIGN

The Smartphone Addiction Scale- Short Version (SAS-SV) developed by Kwon and Lee in the year 2013 (Kwon, 2013). This smartphone addiction scale point Likert scale report measures to identify the level of risk for smartphone addiction. The higher the score, the higher the level of smartphone addiction. This scale is the shortened version of the original Smartphone Addiction Scale (SAS) which consists of 33 questions and points of Likert scale. The shortened version of the original Smartphone Addiction Scale (SAS) which it consists of 10 items where the entire item was rated on a six-point Likert-Type scale which ranging from "Strongly Disagree", coded 1 to "Strongly Agree", coded 6.

The Depression Anxiety and Stress Scale - 21 Item (DASS-21) were developed by researchers at the University of New South Wales (Australia) (Lovibond & Lovibond, 1995). DASS-21 is a set of three self-report scales designed to measure the emotional states of depressive symptoms, anxiety and stress. Each of these is rated on a four-point Likert scale of frequency or severity of the participants' experiences over the last week with the intention of emphasising states over traits. These scores ranged from 0, meaning that the client believed the item "did not apply to them at all", to 3 meaning that the client considered the item to "apply to them very much, or most of the time. The reliability of DASS-21 showed that it has excellent Cronbach's alpha.

The Beck Scale for Suicide Ideation (BSSI) was developed by (Beck, Kovacs, & Weissman, 1979). The purpose of the instrument is to quantify intensity in suicide ideator. The scale contained 19 items rated on a scale from 0 to 2, allowing scores between 0 and 38. The items could be grouped into three categories: "Active Suicidal Desire, Preparation, and Passive Suicidal Desire." (Beck, Kovacs, & Weissman, 1979).

4.0 RESULT

Statistical Package for Social Science (SPSS) version 23.0 is used for statistical analysis (Sun, 2019).

4.1 Descriptive Statistic

Descriptive analyses were used to describe the demographics of respondents and ratings in the study variables. Frequencies, percentages, central dispersion (standard deviation and range) and central tendency (mean and median) were used as results of the descriptive analysis（Barrientos-Báez et al, 2022）.

Table1 Frequency Distribution of Gende

Sort	Frequency	Percent
Male	74	49.0
Female	77	51.0
Total	151	100.0

Table 1 above shows the frequency distribution of gender in this study. The total number of respondents was 151. Of these, 74 (49.0%) were males and 77 (51.0%) were females.

4.2 Reliability

The instruments used in the study were reliable. Table2 below shows the Cronbach's alpha values for each instrument in this study.

Table2 Cronbach Alpha Value for Each Instrument

Instrument	Cronbach's Alpha Value	N of items
The Smartphone Addiction Scale (SAS-SV)	.795	10
Depression Anxiety Stress Scale (DASS-21)	.794	7
Beck Suicidal Ideation Scale (BSSI)	.860	19

Table 2 shows that The Smartphone Addiction Scale (SAS-SV) uses 10 questions and the reliability analysis value is 0.795>0.7, the reliability coefficient of this questionnaire is good; Depression Anxiety Stress Scale (DASS-21) uses 7 questions and the reliability analysis value is Depression Anxiety Stress Scale (DASS-21) uses 7 questions and the value of reliability analysis is 0.794>0.7, the reliability coefficient of this questionnaire is good; Beck Suicidal Ideation Scale (BSSI) uses 19 questions and the value of reliability analysis is 0.860>0.8, the

reliability coefficient of this questionnaire is very good. Therefore, the research instruments used in this study all have a high level of reliability.

4.3 Correlation analysis

According to the analysis method posed by (Martina Udovičić, 2007) Pearson correlations will be computed to assess the strength and direction of the relationship between problematic cellular phone use and the other two variables which are depressive symptoms and suicidal ideation.

According to Table 3, there is a significant positive correlation between problematic mobile phone use and depressive symptoms, r = .368, p > .05 = .000. When the level of problematic mobile phone use increases, depressive symptoms also increase. There was a significant positive correlation between problematic mobile phone use and suicidal ideation, r = .210, p > .05 = .010. When the level of problematic mobile phone use increased, suicidal ideation also increased.

Table 3 Statistical test of Person Correlation

Variables	Problematic Mobile Phone Use	
	r	p
Depressive Symptoms	.368**	.000
Suicidal Ideation	.210**	.000

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

5.0 DISCUSSION

The ubiquity of mobile phones in young people's daily lives has become a priority area of mental health concern (Dietrich et al., 2021). Although speculative, there may be common reasons for this secular trend. One possible reason is that the growing popularity of electronic devices has profoundly changed people's daily lives since the 1960s (Augner et al., 2023). Now, the present study aims to examine whether problematic mobile phone use is associated with depressive symptoms and suicidal ideation. This study found a significant relationship between problematic mobile phone use, depressive symptoms and suicidal ideation. This suggests that it is more important to use mobile phones wisely and not to overuse them in order to avoid falling into problematic use and leading to mental health problems. A study by Choksi & Patel (2021) used the same scales - DASS-21 and Smartphone Addiction Scale (SAS-SV) on 100 university students A cross-sectional survey was conducted and the results from their study also concluded that there is a significant relationship between problematic mobile phone use and depression. Many studies have concluded that mobile phone use among college students increases the risk of depression (Kaya et al., 2021; Zhanget al., 2022; Kong et al.) In addition to this, other findings further support another conclusion of this study, which is the existence of a correlation between mobile phone use and suicidal ideation (Huang et al., 2022; Zhang et al., 2022; Coyne et al., 2021).

6.0 CONCLUSION

This study further extends the understanding of the relationship between mobile phone use, suicidal ideation and depressive symptoms. In addition, it will assist school mental health educators in designing targeted interventions to improve college students' dependence on mobile phones, as well as reduce suicidal ideation and depressive symptoms among college students. Considering the widespread use of smartphones in universities and its relationship with suicidal ideation, parents and campus workers should pay more attention and concern to the excessive use of mobile phones among college students. Therefore, there is a need to learn more about the willingness to use smartphones, to make full use of smartphones for health education, to monitor the overuse of smartphones, and to improve social support and coping mechanisms for depression to help identify suicidal ideation and prevent suicidal behaviours among college students.

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