The Relationship between Internet Addiction, Mental Health, and Suicidal Behavior among Undergraduate Students in Malaysia
(The Consequent of Internet Addiction among Undergraduate Students)

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Abstract: This study aims to determine the relationship between internet addiction, mental health, and suicidal behavior among undergraduate students in Malaysia. An online survey method is used in this study. 150 undergraduate students were recruited through convenience sampling. There were three instruments used in this study which were The Internet Addiction Test (IAT), Mental Health Inventory-18 (MHI-18), and The Suicide Behavior Questionnaire-Revised (SBQ-R). Descriptive analysis is conducted to determine the prevalence of university students with internet addiction. The results showed that undergraduate students with severe internet addiction were 5.3 %, while 51.3 % of the undergraduate student had a moderate level of internet addiction, 28.7% of them had a mild level of internet addiction and the rest were normal users of the internet. Next, Pearson's Correlation analysis showed that there is a low negative correlation between internet addiction and mental health ($r_{150} = -.27$, $p < 0.01$). Furthermore, Pearson's Correlation analysis also showed that there is a weak positive correlation between internet addiction and suicidal behavior ($r_{150} = .23$, $p < 0.01$). In conclusion, we can observe that internet addiction is significantly related to mental health and suicidal behavior. We must take this issue more seriously as mental health is an important aspect of our life.

Keywords: *Internet addiction, Mental health, Suicidal behavior, Undergraduate students*

Abstrak; Tujuan kajian ini adalah untuk mengetahui hubungan antara kecanduan internet, kesehatan mental dan tingkah laku bunuh diri di kalangan mahasiswa di Malaysia. Pengambilan data secara daring digunakan dalam kajian ini. Sebanyak 150 mahasiswa bersedia menjadi responden melalui teknik *convenience sampling*. Terdapat tiga instrumen yang digunakan dalam kajian ini yaitu *The Internet Addiction Test* (IAT), *Mental Health Inventory-18* (MHI-18) dan *The Suicide Behavior Questionnaire Revised* (SBQ-R). Analisis deskriptif dilakukan untuk mengetahui gambaran mahasiswa dengan kecanduan internet. Hasil kajian menunjukkan bahawa mahasiswa dengan kecanduan internet yang berat adalah 5.3%, sementara 51.3% mahasiswa mempunyai tahap kecanduan internet yang sedang, 28.7% kemudian tahap kecanduan internet yang ringan dan selebihnya adalah pengguna internet biasa. Selanjutnya, analisis Korelasi Pearson menunjukkan bahwa terdapat korelasi negatif yang rendah antara kecanduan internet dan kesehatan mental ($r_{150} = -.27$, $p < 0.01$). Selanjutnya, analisis Korelasi Pearson juga menunjukkan bahwa terdapat korelasi positif yang lemah antara kecanduan internet dan tingkah laku bunuh diri ($r_{150} = .23$, $p < 0.01$). Kesimpulannya, kita dapat melihat bahwa kecanduan internet berkait dengan kesehatan mental dan tingkah laku bunuh diri. Oleh itu, kita perlu memandang serius masalah ini kerena kesehatan mental adalah aspek penting dalam kehidupan kita.

Kata kunci: *Kesehatan mental, Kecanduan internet, Mahasiswa, Tingkah laku bunuh diri*

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INTRODUCTION

Internet addiction has become a global concern over these couple of years. Internet addiction is defined as psychological dependence on the internet regardless of the type of activities once logged on (Kiwon et al., 2017). Internet users in Malaysia increased from 5.7 million in 2002 to 15.36 million users in 2009 due to faster broadband by Internet service providers (Malaysia Internet Users, 2012). Internet addiction has been reported to result in negative outcomes such as internet gambling, and misuse of social media which can cause depression, suicide, and death (Malaysian Times, 2013).

Next, suicide is also a cause of death in the younger generation and is considered to be more influential on adolescents than adults (Patton, Coffey & Sawyer, 2009; Liu et al., 2017). There was a case where a 14-year-old boy loved playing games and did not leave his home for half a year until his parents took him to therapy for Internet addiction. This case happened in Malaysia and similarly happens in Japan, China, and South Korea where teenagers died from internet addiction. (The Star, 2016). Furthermore, people who use the Internet most of the time have been associated with potentially severe side effects, especially among adolescents that spend more time on the Internet than adults (Kraut, et al., 2002). Several studies suggest that there are an association between internet addiction and mental health issues among adolescent including suicidal ideation (Yoo, Cho, & Cha, 2014), depression (Fu, Chan, Wong, & Yip, 2010; Ho et al., 2014),

anxiety (Ho et al., 2014; Tang et al., 2014) and low self-esteem (Lee et al., 2001).

Internet addiction may cause a crucial problem in Malaysia especially among younger generations such as university students (Kapahi, Choo, Ramadass, & Nibras, 2013). University students are considered a high risks group for Internet addiction (Young, 1996; Nalwa, & Anand, 2003) because students have huge blocks of unstructured time, and the universities provide free and unlimited access to the Internet so the students can use it whenever they want (Vilani, 2015). Furthermore, students from the ages of 18 – 22 years are away from parental control. There is limited control over the students' daily routines.

The statistics show 20% of Malaysian children and adolescents have mental health problems compared to 13% in 1996. The rise in mental health issues is because of internet addiction (Abdul Aziz, Wan Ismail, & Bahar et al., 2018). Using multiple media streams was associated with higher depression and social anxiety symptoms (Becker, Alzahabi, & Hopwood, 2012). A study also found that spending time on social media such as Facebook is associated with lower self-esteem whereas the number of Facebook friends was negatively correlated with emotional adaptation for undergraduate students. (Kalpidou, Costin, & Morris, 2010). Furthermore, the worse scenario of using multiple media streams was associated with higher depression and social anxiety symptoms (Becker, Alzahabi, & Hopwood, 2012).

In addition, Internet usage and addiction have direct effects on mediating cyber victimization and adolescents' psychological symptoms. (Perwitasari et

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al., 2022). Lack of surveillance from parents makes adolescents more susceptible to the negative influence of the internet such as cyberbullying. Adolescents who experienced cyberbullying were more likely to report experiencing suicidal ideations. Suicidal attempts were significantly higher among adolescents who have cyberbullying experience (Perwitasari et al., 2022). Thus, addictive use of the Internet is becoming a significant problem worldwide, and especially university students are vulnerable for the reason that the internet is an important part of student's life (Khan, & Magdeline, 2016).

This study consists of three objectives. The first objective is to identify the status of university students with internet addiction. Secondly, is to determine the relationship between internet addiction with mental health among university students, and finally, to determine the relationship between internet addiction with suicidal behavior among university students.

PARADIGM, APPROACHES, THEORY, AND LITERATURE REVIEW

Reviewed articles and literature showed that people who spend more time on social media or the internet have the potential effect of addiction. The greater the severity of internet addiction, the greater the symptom associated with anxiety or depression (Arslaan, Maria, Madiha & Sanniya, 2019). Therefore, internet addiction may cause various mental illnesses. Reviews suggest that university students have a higher chance of being addicted to the internet because they spend more time on social media. This

was evidenced in prospective research by Pei Yin and Chin Bin (2018) reported that internet addiction among adolescents correlated with the development of suicidal behavior after 1 year of follow-up. Surprisingly, 93.2% of the respondents in the study shows a limited history of self-harm or suicide attempt in the first assessment. However, after 1 year of the follow-up, 3.9% of respondents developed new suicidal behaviors and 2.41% of them became addicted to the Internet. Thus, this result may suggest internet addiction is associated with the development of future self-harm behavior or suicide attempt.

METHOD

There are three variables used in this study which are internet addiction as an independent variable, and mental health and suicidal behavior as the dependent variable. An online survey and cross-sectional design were used to obtain data from respondents in this study. Inform consent was obtained before the recruitment of the participants. The respondents in this study were 150 undergraduate students from various universities in Malaysia. The survey questionnaires consist of four instruments which were a demographic questionnaire, The Internet Addiction (IAT), Mental Health Inventory-18 (MHI-18), and The Suicide Behaviors Questionnaire-Revised (SBQ-R). The demographic questionnaire collects background information of the respondents which includes gender, age, university, and year of the study. The Internet Addiction Test (IAT) is an instrument to measure the presence and severity of internet dependency for adults and adolescents (Kimberly Young, 1998).

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Mental health inventory (MHI) evaluates mental health issues such as anxiety, depression, behavioral control and positive affect (James, 2010). SBQ-R is an instrument that addresses different dimensions of suicidality such as lifetime suicide ideation, frequency of suicidal ideation, the threat of suicide attempt, and the likelihood of suicidal behavior in the future. The responses are used to identify individuals who are at-risk behaviors (Osman, 2001).

A pilot study has been conducted for the Malay translated version of The Internet Addiction (IAT), Mental Health Inventory-18 (MHI-18), and The Suicide Behaviors Questionnaire-Revised (SBQ-R) before the actual research among 30 undergraduate students (As in Table 1). Based on Table 1, the results of the pilot study showed that the Malay version of IAT, MHI-18, and SBQ-R are reliable to be used in the research.

Instruments	Cronbach's Alpha
The Internet Addiction (IAT)	.93
Mental Health Inventory-18 (MHI-18)	.90
The Suicide Behaviors Questionnaire-Revised (SBQ-R)	.79

Table 1: Validity and reliability analysis of IAT, MHI- 18, and SBQ-R (n=30)

RESULTS

The descriptive analysis showed that the prevalence of undergraduate students with severe internet addiction was 5.3%, while 51.3% of the undergraduate students had moderate levels of internet addiction, 28.7% of them had mild levels of internet addiction and the rest were normal users of internet. The results of the descriptive analysis can be seen in the following table:

Table 2: Prevalence of Students with Internet Addiction (n=150)

	f (N = 150)	%
Normal	22	14.7
Mild	43	28.7
Moderate	77	51.3
Severe	8	5.3

Table 3: Pearson's correlation between Internet addiction and mental health (n=150)

	IAT	MHI
IAT	.	-.269**
MHI	-.269**	.

*Note. ** Correlation is significant at the .01 level (two-tailed).*

Pearson's Correlation showed that there is a weak negative correlation between internet addiction and mental health. This indicates that lower levels of internet addiction are associated with greater mental health.

Table 4: Pearson's correlation between internet addiction and suicidal behavior (n=150)

	IAT	SBQ
IAT	.	.231**
SBQ	.231**	.

*Note. ** Correlation is significant at the .01 level (two-tailed).*

Pearson's Correlation showed that there is a weak positive correlation between

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internet addiction and suicidal behavior. This shows that the greater the internet addiction, the higher the suicidal behavior.

DISCUSSION

The Prevalence of University Students with Internet Addiction

The prevalence of internet addiction who has severe internet addiction is 5.3% while 31.3% of the undergraduate students had a mild level of internet addiction. 48.7% of them had a moderate level of internet addiction and the rest of them were normal users of the internet. These findings were consistent with a study that states that the prevalence of internet addiction who are addicted to the internet are 2.0% while more than half of the participants which is 76.3% are not addicted to the internet. The study looked into grades where higher-grade students are addicted to the Internet (Kentaro et al., 2016). The study suggests that internet addiction appears to be more prevalent in undergraduate students as they get older.

Meanwhile, a study done by Dauda, Jonah & Teplong (2016) states that internet addiction is higher in younger undergraduate students with a percentage of 24.1% and older age at 8.2% respectively. The result of the study is in line with research where 55.6%, 27.9%, and 1.5 % of the respondents had mild, moderate, and severe internet addiction respectively (Yosef et al., 2019).

The Relationship between Internet Addiction and Mental Health

The current study also suggests there is a significant negative relationship between internet addiction and mental health which indicates that lower internet addiction is associated with better mental health as

supported by Silvana and Stjepan (2017). As internet addiction developed, it may affect mental health as a result of forming addictive behavior. Consistent with this finding in the previous study, more time spent on the internet can cause psychological distress (Hoare et al., 2016; Hussain et al., 2016). Besides, this result is in contrast with a study done in Japan that stated students with internet addiction experienced severe mental health problems (Kentaro et al., 2016) where the addicted and possibly addicted groups showed disturbed mental states.

The Relationship between Internet Addiction and Suicidal Behavior

The findings from Pearson's Correlation showed that there is a significant relationship between these two variables. Consistent with this finding, students with an internet addiction are more prone to suicidal behavior (Li et al., 2020).

Furthermore, a cross-sectional study by Guo et al., (2018) stated that severely addicted internet users had a high risk of suicide attempts compared to moderate and average internet users. In addition, adolescents are exposed to this risk because of the daily use of the internet and they are not under their parent's control which makes them engage more in using the internet that leads to suicidal behavior (Liu et al., 2017).

CONCLUSION

In conclusion, internet addiction is significantly related to mental health and suicidal behavior. Adolescents who are severely or moderately addicted to the Internet have bad mental health status. Meanwhile, lower internet addiction is associated with better mental health.

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Furthermore, students with internet addiction have more suicidal behavior higher than students without internet addiction. Hence, from the results of this research, we need to look into this issue more seriously as mental health is an important aspect of our life thus, prevention needs to be taken before it gets worse.

The limitation of this study was the sample of the population is quite small to represent the population of undergraduate students in Malaysia. In addition, this study is a cross-sectional study where it was only observed at a single point in time. By conducting a longitudinal study, it would be easier to determine the association between internet addiction, mental health, and suicidal behavior and see how these variables relate to one another. Last but not least, it is recommended to expand the research focusing on the intervention program for proper use of the internet among young generations as the number of people addicted to the internet is increasing.

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