THE RELATIONSHIP BETWEEN INTERNET ADDICTION AND DEPRESSIVE SYMPTOMS AMONG UNDERGRADUATE STUDENTS OF UTM

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Abstract

The aim of this study was to investigate the relationship between internet addiction and depressive symptoms among undergraduate students in UTM. This study also aims to determine the level of internet addiction and depressive symptoms among the students. This cross-sectional study was conducted among 148 students aged between 18 and 27 years utilising a survey questionnaire. Internet addiction was accessed using Young Internet Addiction Test and depressive symptoms were assessed using Beck Depression Inventory (BDI-II). Results demonstrated that the respondents met the criteria of mild addictive internet users and mild level of depressive symptoms. The findings of this study indicate that internet addiction is positively correlated with depressive symptoms.

Keywords: *Internet addiction, depressive symptoms, university students*

■ 1.0 INTRODUCTION

The increasing changes in information and communication technologies (ICT) have changed the way we live as the internet has become more and more important in our daily life especially for adolescents and young adult. People use the internet for a variety of task ranging from texting, social networking, online gaming, online shopping, and blogging. Some internet activities such as online games, social network and chatting were found to be more attractive and addictive, which were associated with pathological internet use (Van Rooij, Schoenmakers, Van de Eijnden, & Van de Mheen, 2010). According to the Malaysian Communication And Multimedia Commission (2018) the percentage of internet users in Malaysia increase to 87.4% in 2018 equating to approximately 28.7 million internet users. While based on the worldwide ranking, the Internet World Stats (2018), Asian countries recorded the highest percentage of internet use among the world in 2018 and China was the highest percentage users among Asia which is approximately 38.9 % followed by India with 22.4%.

Excessive time spent on the internet may change an individual's life pattern consequently contributing to internet addiction especially for adolescents and young adults. According to the Malaysian Communication And Multimedia Commission (2018), the average time of internet use at the age of 20 to 30 years old is approximately 8 hours per day. As reported by Lu and Yeo (2015), internet usage among university student was high as they use it in their daily lives. Therefore, university students are considered as a part of the young group who are vulnerable to internet addiction (Frangos, Fragkos, & Kiohos, 2010). Problematic internet use may also be a serious concern for public health which may have an association with mental health and psychological well-being for young adults especially university students.

Furthermore, researchers also found that university students' addiction to the internet has resulted in negative consequences. University students are one of the young population who face challenges and dealing with their stress due to independent living, academic and their future career planning (Uehara, Takeuchi, Kubota, Oshima, & Ishikawa, 2010). These are the common issues that may turn out to be a stressor for students (Deb et al., 2016) and potentially lead to depression (Shamsuddin et al., 2013). Focusing on depression, formet Malaysian Mental Health Association deputy president and consultant psychiatrist, Datuk Dr. Andrew Mohanraj Chandrasekaran stated that mental illness are rising globally and expected to be more frequent in the future (Muthiah, 2016). This issue started to be a growing concern for Malaysia and other countries as well.

A number of studies have reported that internet addiction is associated with depression. A study by Gorgich, Moftakhar, Barfroshan, and Arbabisarjou (2018) conducted in Southeast of Iran found internet overuse may cause depression, mental health and academic performance problems among university students. Nie, Zhang, and Liu (2017) stated

that internet addicted users considered the internet as a place where they can gain more social support and release pain from their daily lives. Additionally, research on internet addiction and depressive symptoms among university students in Malaysia are limited. As suggested by Anand et al. (2018) the relationship of internet addiction and depression needs to be explored more. Given these issues, the current study sough to investigate the relationship between internet addiction and depressive symptoms among university students in Universiti Teknologi Malaysia.

Research Objectives

The research objectives are as follows:
   i.   To determine the level of internet addiction among undergraduate students of UTM.
   ii. To identify the level of depressive symptoms among undergraduate students of UTM.
   iii. To investigate the relationship between internet addiction and depressive symptoms among undergraduate students of UTM.

■ 2.0 LITERATURE REVIEW

Internet Addiction

Internet addiction considered as technological addiction and it is consist of behavioural addictions (Manaf, Mohd Sham, Khairil Azri, & Naidu Ragubathi, 2018). Internet addiction also further refined as "excessive poorly controlled preoccupations, urges or behaviours regarding computer use and internet access that lead to impairment or distress" (Shaw & Black, 2008). Users who are addicted to internet tend to spend their time on online gaming, browsing texting or chatting in social networking sites that may affect to isolation from family members and community, headache and eye irritation due to the excessive usage of internet.

The internet addiction concept and definitions had been developed by a number of theorists and can be clarified through different internet addiction models. Internet addiction component model was developed by Griffiths (2005) which argues that all addictions consist of a number of components; salience, mood modification, tolerance, withdrawal, conflict, and relapse. These components need to be present for a behaviour to be defined as addictive (Griffiths, 2002). This model also clearly explained that some individuals may be engaged in behaviours that consist of addictive elements without being categorise as extremely addicted.

Depressive Symptoms

Beck (1964) argued that negative thought generated by dysfunctional beliefs were the cause of depressive symptoms. According to American Psychiatric Association (2017) depression is a serious medical illness that negatively affects the way people feel, think, act and can lead to individual's emotional and physical problem. Generally, people who suffer from depression usually experiences symptoms of feeling of hopelessness, feeling of guilt, loss of interest in their hobbies and activities, difficulty in sleeping and concentrating (National Institute of Mental Health, 2015)

Cognitive theories of depression developed by Beck (1967) provide a better way of understanding of developmental aetiology and maintenance of depression among adolescents. Beck's cognitive model postulates that there are three specific concepts to explain the psychology of depression: 1) the cognitive triad, 2) schemas, 3) cognitive errors. Beck indicated the cognitive triad consists of three major cognitive patterns that include view of himself, his future and his experiences in an idiosyncratic manner (Aaron T Beck, 1979). While a depressogenic schema which contains dysfunctional attitudes influence how an individual interpret information. Individual who possess depressogenic dysfunctional attitudes experience an increase in depressive symptoms following the occurrence of negative events (Hankin, Wetter, Cheely, & Oppenheimer, 2008) and the schema is activated in a specific situation and determine how the person responds. On the other hand, individual with cognitive error will overgeneralize something happened to them and humiliating themselves. They also will experience minimization where they will underestimate something that happened to them. Depressive people also develop personalization where they have negative thought to other people. Lastly, they have tendencies to make conclusion and decisions over something without know all the facts. Therefore, this theory by Beck (1967) help this research to determine depressive symptoms among respondents.

Relationship between Internet Addiction and Depressive symptoms

Several previous studies had been conducted to investigate the relationship between internet addiction and depressive symptoms among university students. Orsal et al. (2013) carried a research study of evaluation of internet addiction and depression among university students that involved 4585 students from Eskisehir Osmangazi University. The Young Internet

Addiction Scale (IAS) and Beck Depression Inventory (BDI) was used to assess internet addiction and depression in the group. The findings of the study showed there is a significant positive correlation was found between the level of internet addiction and depression among university students.

There were also several past studies had similar findings were conducted in Malaysia. Othman and Lee (2017) had conducted their study in Hospital Tengku Ampuan Rahimah in Selangor among 267 students at age of 18 to 24 in order to examine the internet addiction and association with depression and anxiety among college students. Results from this study showed internet addiction was significantly associated with depression.

Another study by Boonvisudhi and Kuladee (2017) also focused on the association of internet addiction and depression in a population of medical students at the Faculty of Medicine, Ramathibodi Hospital in Thailand. Surprisingly, the researchers indicated that this is the first research to explore the association between internet addiction and depression among Thai medical students. The outcomes of this study found there were 24.4% of the students had possible internet addiction and 28.8% had depression as measured by the Young Diagnostic Questionnaire for Internet Addiction and Patient Health Questionnaire (PHQ-9). Moreover, the main findings revealed there was a statistically significant association between possible internet addiction and depression.

Another study was conducted in Jordan by Rabadi et al. (2017) had similar results of the study as well. This study involved 4388 university students ranging in age from 17 to 26 from different faculties at the Jordan University of Jordan in the aims to examine the effects and the connection between Internet addiction and developing depression, stress, anxiety, and psychological symptoms among university students. The respondents' severity of internet addiction was measured by Internet Addiction Scale (IAS) and for depression symptoms level assessed by the Depression Anxiety Stress Scale (DASS). The results of this study revealed there are significant correlations between internet addiction and depression.

■ 3.0 METHODOLOGY

Research Design

Research design is a plan through which researcher decide and communicate to others regarding to study design will be use, information collection from the respondents, respondents selection and how the information to be analysed and how researcher will conclude the findings (Kumar, 2014). The functions of research design are to identify the procedures and arrangements to undertake the study and to emphasize the importance of quality in the research procedures to ensure their validity, objectivity and accuracy. This correlation study which aims to investigate the relationship between the variables which is Internet addiction and depressive symptoms. Quantitative research utilizes in this study as a data collection among the respondents and it will be including descriptive to collect demographic data. This cross-sectional study will distribute the questionnaire to the respondent as a research instrument in order to measure the level of internet addiction and depressive symptoms among undergraduate student in Universiti Teknologi Malaysia.

Population and Sampling

For this purpose of this study, university students from first year to final year of Accounting from School of Azman Hashim which was selected as respondents in this research as they are in the range of young adults. The population estimated to have 250 students that will involve in this study. By referring to the Krejcie and Morgan table, the sample size needed for the population is 148 respondents to participate in this study.

Measures

This quantitative research is a set of questionnaires to collect data based on what researcher intend to analyse. Internet addiction test (IAT) constructed by Young (1998) used in this research to measure the severity of internet addiction among adults and university students that consists 20 items and each item of will be rated on 5-point scale ranging from 0-5. Depressive symptoms measured by Beck Depression Inventory (BDI-II) developed by Aaron T Beck, Steer, and Brown (1996b) which to measure level of depression at ages 13 years old and above. This questionnaire consists of 21 items rated on 4-point scale ranging from 0 to 3.

Data Analysis

Statistical Package for Social Science (SPSS) version 22.0 will be used in this study to analyse the result. In order to study for the relationship between Internet addiction and depressive symptoms, the data will further analyse with both descriptive and inferential statistics.

■ 4.0 RESEARCH FINDINGS

Demographic Analysis

Table 1 showed 80.4 % of the respondents are from aged of 18 to 21. Out of 148 respondents, 34 respondents are male (23%) and 114 are female (77 %). Regarding the courses of program, majority respondents are from Bachelor of Accounting and majority are Malay. The table shows that majority of respondents are first year students (37.2 %), followed by 49 second year students which (33.1 %), 40 third year students (27%) and the lowest were fourth year students (2.7 %).

Moreover, the findings demonstrate that as many as 73 respondents (49.3%) spent their time on internet for 5 - 6 hours. Furthermore, 41.9 % spent 3 - 4 hours, followed by 7.4 % for 1- 2 hours and the lowest was 0.1 % who spent less than 1 hour on internet. Besides, the table also showed that 37.2% respondents reported they spent time on the internet on social networking sites.

Table 1: Respondents' demographic information (n=148 respondents)

Demographic Information (n=148)		Frequency (*f*)	Percentage (%)
Gender	Male	34	23
	Female	114	77
Age	18 - 21	119	80.4
	22 - 24	27	18.2
	25 - 27	2	1.4
Race	Malay	97	65.5
	Chinese	22	14.9
	Indian	16	10.8
	Others	13	8.8
Year of study	1st year	55	37.2
	2nd year	49	33.1
	3rd year	40	27
	4th year	4	2.7
Hours spent on internet	Less than 1 hour	1	0.7
	1-2 hours	11	7.4
	3-4 hours	62	41.9
	5-6 hours	73	49.3
Types of online activities	Online Chatting	39	26.4
	Social networking sites	55	37.2
	Online games	17	11.5
	Watch or download movies	28	18.9
	Online shopping	3	2.0
	Academic information searching	6	4.1
Total		148	100

Internet Addiction

Descriptive analysis was used to identify the level of internet addiction among respondents. The overall mean scores for internet addiction among undergraduate students was found to be at mild level as displayed in Table 2

Table 2: Level of Internet Addiction

Variable	Mean	Std.Dev	Level
Internet Addiction	45.93	14.45	Mild

Depressive symptoms

Descriptive analysis was used to identify the level of depressive symptoms among respondents. The overall mean scores for depressive symptoms among undergraduate students was found to be at mild level as displayed in Table 3.

Table 3: Level of Depressive symptoms

Variable	Mean	Std.Dev	Level
Depressive symptoms	15.06	10.41	Mild

Relationship between Internet Addiction and Depressive symptoms among undergraduate students of UTM

Table 4 illustrated the relationship between internet addiction and depressive symptoms among respondents by referring to their correlation coefficient, *r* and significant value *p*.

Table 4: Correlation between IAT and BDI Scores

Variables	r	P
Internet addiction and Depressive symptoms	0.357*	0.000

* Correlation is significant at the .01 level

■ 5.0 DISCUSSIONS, LIMITATIONS AND RECOMMENDATION

Discussion on Internet Addiction and Depressive symptoms

Generally, the result of this study showed undergraduate students of UTM possess mild level of internet addiction. Consistent with a research conducted by Haque et al. (2016) and Anand et al. (2018), the respondents who were participated in the research were university students and had mild level of internet addiction. According to Gorgich et al. (2018) high internet access to internet, advanced internet devices, mobile, young and student usage are the factors for increasing internet addiction. Most respondents in this present study spent about 5 - 6 hours on internet and social networking sites. According to Alzougool (2018), these sites are used by 90% of young adults at ages 18 - 29 which are the most active users. In addition, Penni (2017) reported that Facebook, Twitter and Instagram are mainly sites used by young people most of the time. This findings were similar to a study by Morrison and Gore (2010) where they reported that those who scored high in internet addiction spent more time on online gaming, browsing, online communities and chat sites.

The level of depressive symptoms in this study showed that most respondents possess mild level of depressive symptoms. The risk of depression increases among university students as they are usually undergoing exchange role such as moving away from the family home without adult supervision for the first time and living with other students (Read, Wood, Davidoff, McLacken, & Campbell, 2002). The level of depressive symptoms among respondents of the present study contradict with previous studies. A study in India, Spanish and United States found in their research study that most of students who participated in the research had severe and major of depression (Goebert et al., 2009), (Vázquez & Blanco, 2006), (Deb et al., 2016). On the other hand, a study conducted in Malaysia by Shamsuddin et al. (2013) reported most of respondents among university students from public universities had moderate level of depression.

Discussion on Relationship between Internet Addiction and Depressive symptoms among undergraduate students of UTM

Focusing on the relationship, the result analysis of this present study reveals that there was a significant relationship between these variables, despite its low magnitude. Similar results found in the findings of this research where studies conducted by Rabadi et al. (2017), Banjanin, Banjanin, Dimitrijevic, and Pantic (2015), Boonvisudhi and Kuladee (2017) found there was significant relationship between internet addiction and depressive symptoms among university students. It has been proposed by Lin and Tsai (2002) that internet addiction may contribute to unsuccessful coping and difficulties in life, which can worsen individual's daily life function, academic performance and relationship with others.

On the other hand, Morrison and Gore (2010) used the similar instruments with this current study also found significant relationship between Internet Addiction Test (IAT) and Beck Depression Inventory (BDI). Burden of studying, stressful education, moving away, financial and emotional problem may lead to internet addiction or depression (Orsal, Orsal, Unsal, & Ozalp, 2013). Findings of this research showed those who have internet addictive tendencies also tended to be more depressed.

Limitations and Recommendation

This research study has several limitations. The sample size is small where this study only involves Accounting student from Azman Hashim UTM. Hence, selection bias exists and this study also employed non-probability sampling whereby the findings are unable to be generalized to other population. Another limitation is this cross-sectional study can prevent from identifying the cause and effect of the study. Even though this design good for descriptive and hypotheses analysis, the associations between variables also may difficult to interpret.

As for future research, it is recommended to do research in bigger sample size and involve more undergraduate students in UTM or other universities from different programs. Furthermore, the associations between internet addiction and related factors have been found by gender differences in several studies. Therefore, future studies are necessary to study this issue and suggested to examine and identify level of internet addiction and depressive symptoms according to age or gender differences.

■ 6.0 CONCLUSION

The results of this research study discovered that the level of internet addiction among undergraduate students of UTM is mild and the students also possess mild level of depressive symptoms. Moreover, this study finds that internet addiction is associated with depressive symptoms among Accounting student in UTM.

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