FACTORS INFLUENCING INTERNET ADDICTION AMONG UNIVERSITY STUDENTS: A REVIEW

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ABSTRACT: *The widespread usage of Internet worldwide has resulted in a tremendous change in people's lifestyle, particularly the young generation, which is recognized as the digital natives. However, there is an increased concern in the use of Internet among university students as they can become addicted to Internet due to its excessive usage. In this respect, it is vital to investigate the pattern of Internet usage of the users as the ways in which they use Internet may result in the Internet addiction. Considering that Internet addiction can disrupt the productivity of a nation, extensive studies of Internet addiction have been conducted, and most of these studies were conducted in countries that have advanced technology of Internet. This paper presents a review of the existing studies of the factors contributing to Internet addiction among university students. Based on the review, these factors can be categorized into four factors, namely, the psychological factors, demographic factors, socioeconomic factors and usage pattern. Drawn from this review, a conceptual framework consisting of eight factors influencing Internet addiction has been formulated. This conceptual framework serves as a research design to investigate the factors that influence Internet addiction among university students*

Key words: Internet addiction, university students, determinants, conceptual framework

1.0 INTRODUCTION

Resulting from the advanced and rapid development in ICT, wireless Internet can be accessed via computer, mobile phone, cyber cafe, tablets and smart phones. In this regard, Internet has become a necessary tool for education, business, entertainment as well as social interactions. It has also been reported that the online technologies revolution has increased the population of Internet users from 5 million in 2001 to 20 million in 2011 [1].

Consistent with the emphasis on e-learning at the tertiary education, university students are increasingly accessing the Internet via laptops, computers, mobile phones and other gadgets. Further, known as the digital natives, the university students, who are mostly growing up and have encultured with the online technologies, do not face many difficulties in using the online technologies. In this case, they are considered as the main users of Internet. A study conducted by Sharifah [2] found a high percentage of the Internet users are university students in which 67% and 21% of the Internet users are from degree and diploma students respectively. However, Internet usage among university students has become a controversial issue as users can become addicted to Internet due to its excessive usage [3]. The overuse of Internet among university students is at a worrisome level [3,4]. Many have claimed that the consequences of Internet addiction among university students are similar to drug addiction, which involved serious physical injury, impaired financial systems, family conflict and psychological disorders [5,6,7,8,9].

The seriousness of this issue has resulted in the interest among scholars to investigate the level of Internet addiction among university students and the factors leading to Internet addiction. However, most of these studies are contextualized within the countries that have wide usage of Internet like the USA, Korea and China. According to Ashish [4], Malaysian youths, range from 18-25 years are highly susceptible to risk of Internet addiction. She claimed that these addicted youths suffer from insomnia, physical changes, lack of confidence and many others.

Considering the usage of Internet is becoming increasingly widespread and the diverse background of young generation in Malaysia, it is timely to investigate the seriousness of this phenomenon in Malaysia. Specifically, it is crucial to have an understanding of the factors contributing to addiction of Internet so that necessary actions can be taken to tackle this problem.

This study aims to provide an understanding of the factors that result in Internet addiction among university students in Malaysia. In this context, this paper presents a review of the literature in order to identify the research gaps. This review is also used to develop a conceptual framework of Internet addiction. The paper is structured according to the following sections. Following the introduction section, the second section focuses on the synthesis of the literature. The next two sections present the method and the discussion sections. This paper ends with a conclusion section.

2.0 LITERATURE REVIEW

Studies of Internet addiction have been extensive and most of these studies are mainly drawn from the field of psychology. For the purpose of this section, studies related to Internet addiction is divided into five categories: i) instruments to measure Internet addiction; ii) psychological, iii) demographic and iv)socio-economic factors that influence Internet addiction and v) patterns of using Internet.

2.1 Instruments to Measure Internet Addiction

Various instruments to measure Internet addictions have been developed from the domain of psychology. Early development of Instrument particularly focused on diagnosed of Internet addiction criteria to describe the phenomenon of internet addiction which is spreading among youngsters[5]. Most of the studies used Internet Addiction

Test (IAT) to measure Internet addiction level developed by Young [11] and validated by Widyanto & McMurran [12]. IAT was developed to distinguish the Internet user based on normal, moderate or severe level of addiction via Likert scale. It is used to identify the Internet addiction level among university students. IAT is the first global instrument for measuring the level of Internet addiction, which has been adopted worldwide and have been translated into several languages such as Chinese, Persian, Korean, German, Portuguese, Arabic, Italian, Pakistan and other.

There are also instruments developed to assess aspects, such as the behavioral of Internet user, symptom, personality, family relation, psycho-social perspective, environmental dynamics and the negative consequences of Internet addiction when they use the Internet excessively [5]. Meanwhile, Mustafa [8] and Deepak [13] used instruments, such as SCL-90 and Duke Profile respectively to investigate the symptom of psychopathology of Internet users.

2.2 Psychological Factors

Most of the studies related to Internet addiction investigated the psychological aspects of the users as the factors that contribute to Internet addiction. These studies examine psychological disorder in different viewing angle. Most of the studies used university students as the sample to measure their Internet addiction level. For example, Bashir [14] stated that the psychological disorders are related to Internet addiction and he found that male nursing students who suffer from psychological disorders are likely to suffer from Internet addiction problems. Bashir used a validated GHQ-12 instrument to examine the students' mentality. The instrument was designed based on study conducted by Takeshi [10].

A study conducted by Hasan & Salar [6] showed that there is a significant relationship between mental disorders with Internet addiction, while Nizar [15] stated that there is a weak relationship between student's mentality and Internet addiction. Hasan and Salar [6] asserted that there is a significant positive relationship between emotional intelligence and mental disorders that results in Internet addiction. They also claimed that emotional intelligence has a significant relationship with personality and social students.

Consistent with the findings from the study conducted by Hasan & Salar [6], Fatemeh Saraei [7] shows a significant positive relationship between mental health, Internet addiction and academic achievement. Higher mental problems make students become addicted to the Internet and affect their academic achievement. In this case, Internet addiction has negative effect toward academic performance. This can be proven based on the findings that students with low academic achievement scored high in the Likert scale test. However, a study conducted by Sushma [16] asserted that excessive Internet use would not lead to Internet addiction, if they use the Internet for a good reason, especially for academic purposes.

2.3 Demographic Factors

Sushma [16] stated that there is no significant relationship between demographic factors and Internet addiction. She justified that students who become addicted to the Internet have poor academic achievement; however, this finding does not apply to any specific gender. Ashish [4] argued that age is one of the demographic factors that has relationship with Internet addiction. Tertiary students or youths are found to have high probability to be addicted to Internet in comparison to those who have entered the working life.

Zhixian Yi [17] stated that demographics (age and race) and socioeconomic status (family income) have a positive relationship to Internet usage patterns among US adults. Further, Christos [18] claimed that demography factors, such as gender difference have relationship with Internet addiction. However, this assertion is challenged by Ali [19] who stated that there is no difference between gender that contributes to Internet addiction. According to Christos [18], male students are more vulnerable to Internet addiction than female students, and they have negative effect to academic achievement.According to June [20] negative social behaviors such as involvement in drugs, alcohol, and smoking addiction also contribute to Internet addiction.

2.4 Socioeconomic Factors

Johari [21] shows a weak positive correlation between socioeconomic status and Internet addiction. Parents who earn high monthly income cause the children to demand for a complete computer equipment with wireless. The complete technology provided by their parents make them to ignore their school work.

According to Park [9], family function should play a role to overcome Internet addiction phenomenon among students and harmonious family atmosphere should be developed and sustained in order to avoid family conflict and family bullying. He claimed that parents' behavior, family communication, family conflicts and family bullying can be considered as high-risk factors for Internet addiction among university students. Artemis [22] found that there is a significant relationship between parent marital status with Internet addiction problems. Divorced and separated parents allow huge opportunities for students to engage in Internet addiction compared to parents who are still living together.

2. 5 Internet Usage Pattern

Choo [23] argued that tasks related to the virtual environmental such as, distance learning and on-line working contribute to Internet addiction among young people. Jalaleddin [24] found that virtual environment gives an attractive imagination to them and makes students spend more hours in front of the Internet. Most of the students are more likely to form fellow online and establish online relationship without knowing each other.

Bashir [14] also claimed that students who use the Internet for more than six hours daily are more likely to have psychiatric symptoms. Artemis [22] claimed that students tend to spend more time and money to surf the Internet over doing outside activities, and this affects their productivity. Waseem [25] found that 30% of university students addicted to the Internet will use the Internet between 40 to 50 hours a week. At the same time, they suffer from mental problems, psychology, health, education and social issues.

Smart phones have also been claimed to contribute to Internet addiction among university students. Jung [26] showed that the smart phone is a tool that provides a wide

range of applications in daily life such as Internet-based communication, media entertainment, education, business and clinical applications. Smart phones facility has increased the total number of users exceeded 1.08 million up to the year 2012 and continuous to increase. He further claimed that overused of smart phone causes students to become addicted to the Internet.

3.0 DISCUSSION
Based on the review of the literature above, studies of Internet addiction tend to focus on psychological, demographic and socio-economic factors of the users. Additionally, studies related to the Internet usage pattern and the instruments to measure users' level of Internet addiction were also available. This implies that the majority of these studies that deal with factors contributing to Internet addiction are mostly based on the psycho-social factors such as personality, family social/peer groups and demography. It is believed that a more holistic perspective to understand the factors that contribute to Internet addiction should include the socio-political factors that are unique to a particular socio-cultural environment, such as Malaysia, characterized as a multi-racial country. Drawn from the existing literature review, the factors that contribute to the Internet addiction among university students are personality, family background, socio-economic background, usage pattern, info-structure, demography background, community and peer group as well as government policy. The researchers also believe that besides the social and psychological factors that influence Internet addiction, government policy also plays a significant role in influencing Internet addiction. However, so far studies that investigate this factor are still non-existing. These factors are shown in Figure 1.
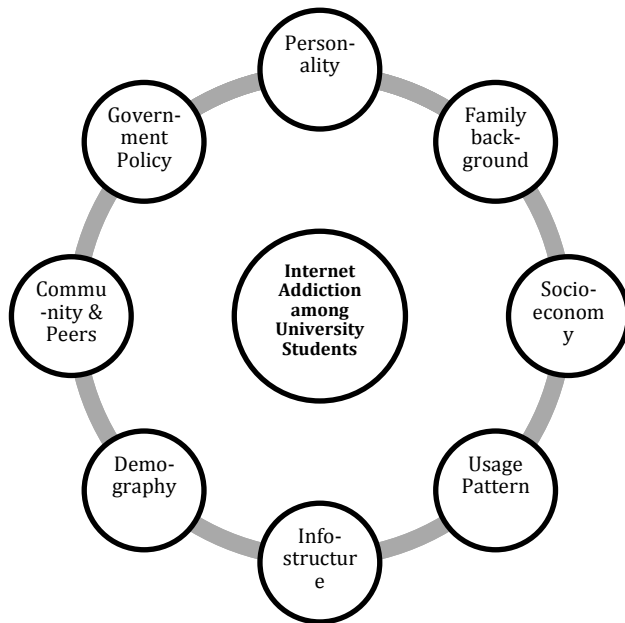

Figure 1: Conceptual Framework

Further, it is believed that these contributing factors do not work independently, but rather they are interrelated to each

other as they interact with each other in contributing to Internet addiction among Internet users.

4.0 CONCLUSION
The phenomenon of Internet addiction has been widespread across the globe with university students considered as the high risk group to be inflicted by Internet addiction. Most studies of Internet addiction have been conducted in advanced countries that have good Internet infrastructure. However, as the increased development of Internet technology in developing countries, studies that investigate the issues or phenomena related to Internet addiction is becoming important.

Based on the existing literature review, factors contributing to Internet addiction can be categorized into four categories namely the psychological factor, socio-economic factor, demographic factor, and Internet usage patterns. It also found that these studies tend to deal these factors independently. Drawn from this analysis, eight factors that have significant influences on Internet addiction have been identified. These factors are personality, family background, socio-economic background, usage pattern, info-structure, demography background, community and peers as well as government policy. For future work, these factors as presented in Figure 1 can be used as a conceptual framework to investigate issues relating to Internet addiction among students.

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