

INTERNET ADDICTION AMONG SECONDARY SCHOOL STUDENTS IN KUALA LUMPUR

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Abstract

Many researchers have shown that the Internet users are at risk of developing an obsessive dependency or “addiction” towards Internet. A descriptive correlational study was intended to investigate the relationship among time-used online, types of Internet use and Internet addiction among Secondary School students. A total of 431 respondents involved in this study were Secondary School students ranging from 13 to 18 years old living in Kuala Lumpur. The selection of respondents was based on a two-stage cluster sampling method. Instruments that were used were the Demographic Characteristic Sheet, Internet Addiction Test, Types of Internet Use and Time-used online. An administered Malay version of Internet Addiction Test was used to overcome the language barrier. The pencil and paper test took place in the schools monitored by academic staffs, and was given 45 minutes to fill in. The time-used online, types of Internet use and Internet Addiction were measured using descriptive and correlation methods. The Internet Addiction level among respondents was significantly different between male and female Secondary School students, where male score higher addiction levels than female. Results showed that Internet use such as Social Networking Websites, Chat rooms, gaming Websites and Videos were moderately correlated with Internet Addiction scores. Among Secondary School students in Kuala Lumpur, time-used online and types of Internet use is correlated with Internet Addiction level.

Keywords: Internet addiction, Secondary School students, time-used online, types of Internet use

Introduction

The Internet gains popularity rapidly with 28.7% penetration across the population as of 2010 (Internet World Stats, 2010b). In Malaysia, there were approximately eleven million Internet users back in 2006, taking third largest Internet users communities after Hong Kong and Singapore in ASEAN (International Telecommunication Union, 2006). Researchers believed that there is an emergence of Internet addiction among Internet users and is correlated with significant ill-effects (Putnam, 2000; Kraut et al., 1998; Young, 1998; McKenna & Bargh, 2000; Wade, 2001; Choi et al., 2009; Lin and Tsai, 1999; Chou & Hsiao, 2000; Scherer, 1997). The terminology “Internet addiction” remains as an unsolved debate issue for at least 15 years. Some researchers prefer to call the phenomena as: Internet Addiction Disorder (Goldberg, 1996); Internet Pathological Use (Davis, 1999; Morahan-Martin & Schumacker, 2000); Internet Dependency (Scherer, 1997); Problematic Internet Use (Caplan et al., 2006) and so on. To maintain consistency, “Internet addiction” proposed by Young (1996a) and Chou and Hsiao (2000) is used in this study. The Internet is a platform for a diversity of potential addiction properties. According to Greenfield (1999), “the revolutionary features of the Internet help contribute to the uprising of Internet addiction”. There are various studies that shows that some individual are more susceptible to Internet addiction because of respective psychological variables, such as sensation seeking, use and gratification, loneliness, depression (Lavin et al., 1999; Zuckerman, 1979; Lin & Tsai, 2002;

Chou & Hsiao, 2000). The predictors of Internet addiction are widely speculated and require a larger scale of exploration from different perspectives.

Apart from gathering information in understanding better the “Internet scene” of Malaysia, this study is hoped to serve as a preliminary study in a larger scale of Internet addiction nationally. For theoretical importance, this study helps to identify the prevalence of Internet addiction in secondary school students in Kuala Lumpur. The study is also meant to explore the multiple predictors of Internet features that affect Internet Addiction among Secondary School Students in Kuala Lumpur. By examining the prevalence of Internet Addiction among Secondary students in Kuala Lumpur, this study will provide empirical data that is sufficient to help researchers create a bigger scale research to help government policy makers, public health, law and order, IT departments to develop a strategy to curb the harmful effects of Internet addiction. It is essential for the education department to be aware of these growing phenomena in order to overcome the declining of academic performances and psychological well-being among adolescents.

Literature Review

Gender Differences. As many data shows, Internet addiction reflects differently on gender and age because of the general preference of Internet activity. Griffiths (1998) concluded that the population that falls in the Internet addiction categories is male in their late teens. Scherer (1997) and Morahan Martin and Schumacker (2000) reported that men show more symptoms of Internet addiction symptoms than women. Apart from that, women have lower potential of Internet addiction because they are more attracted to Internet features that enable them to establish close relationships and share feelings (Young, 1998). The mixed results encourage more factors to be taken into consideration in future research.

Secondary School Students and IA.

The “adolescence” is often viewed as an independent life stage that stands between childhood and adulthood. The adolescence is usually defined by age: 11-18 or even more years. Sokol (2002) defined this stage as “Identity against the confusion of roles”, which is the fifth out of eight stages in the psychoanalytical stages. Meeting new friends and communication becomes an important mean of developing heterosexual relationships, which are the types of relationships that evolve from friendships to partnership. In relation to the psychological development of an adolescent, the Internet has the features to cater to the needs, such as chat rooms and social networks for meeting new friends. Therefore, it can be deduced adolescents and young adults are the most susceptible group at risk of Internet addiction related effects.

Time-used Online.

The question remains “is there a significant time marker that determines a person time-use online which predicts Internet addiction?” Young (1996) mentioned an average Internet dependent spends a striking 39 hours online, comparing to 5 hours per week for non-dependents. Similarly, Chen et al (1999) reported that the Internet Addiction high-risk group spent an average of 20 hours per week online, contrasting with the Internet Addiction low-risk group which scores 9 hours per week. Another research by Chou and Hsiao (2000) has shown that people who fall in the category of Internet addiction spends 20-25 hours of Internet per week.

Attributes of Internet Addiction Related Uses.

Research shows that online activities that involve “interaction” such as chat rooms and online games have a high correlation with Internet addiction (Chou et al., 1999; Chou and Hsiao, 2000;

Young, 1998; Kandell, 2001). For example, in Young's (1998) study, dependents use predominantly two-way communication functions such as chat rooms, role-playing game, newsgroups or emails, whereas non dependents most likely use information gathering functions. The results are consistent with Chou et al.'s (1999) study which reports that Internet addicts most frequently use chat and talk functions, emails and games. Furthermore, the Internet addicts use more time than the non-addicts. According to Leung (2004), the pleasure of control is defined as the pleasure of being able to control the stimulated world inside the computer, such as in video games and online games. The major appeal of interactive games is that players are able to extend their mind and control the artificial world inside the computer.

Theories Related to Internet Addiction.

Substance dependence is defined as a neurobiological disease with genetic, psychological and environmental factors, causing one or more of the following: behaviour-impaired control, compulsive use, continue uses despite harmful effects and craving. Another paradigm that is often related to Internet Addiction is pathological Gambling. Pathological gambling is a subset of behavioural or impulse disorder, asserting that this disorder consists of frequent, repeated episodes of gambling that dominates the person's life causing impairment in social, occupational, material, and family values and commitments. Griffiths (1995) proposed that technology addiction is a nonchemical or behavioural dependency that involves human-machine connections. The emergence of this form of addiction is based on the assumption that all new technologies potentially include inducing and reinforcing features, much like other forms of addiction that may contribute to addictive tendencies (Widyanto & Griffiths, 2006). Schimmenti and Vincenzo (2010) added that technology addiction always shows addiction signs such as possessiveness, impulsivity and compulsivity.

Theories of Internet Addiction.

Griffiths (1998) has defined six characteristics of Internet Addiction Disorder as salience, tolerance, mood modification, withdrawal, conflict, and relapse. Tsisika et al. (2009) described salience a thought that determines intentional selection. The term is widely used in the study of perception and cognition to refer to any aspect of stimulus that, for many reasons, stands out from the rest. In Griffiths' criteria, using the Internet dominated the person's life, feelings and behaviors. Kriplean et al (2008) stated that tolerance in addiction is a physiological state characterized by a decrease in the effects of a drug (e.g. analgesia, nausea or sedation) with chronic administration. Tolerance is said to be the process by which the body continually adapts substance and requires increasingly larger amounts to achieve the original effects. Parallel to substance tolerance, Internet addicts require increasing amounts of Internet use to satisfy their needs. In a research by Young (1996), the majority of high-risk IA users are reported to have an increase in Internet use over time, as compared to non-addicts. According to Kandell (1998), Internet addicts often succumb to Internet as relationship problems and negative self-perception issues arise. According to Griffiths (2000), mood modification refers to the subjective experience that people report as a consequence of engaging in the particular activity (i.e. they experience an arousing buzz or a high or a paradoxically tranquillizing and/or distressing feel of escape or numbing). Griffiths explains that "such mood-modifying experiences are common in many behavioural addictions such as gambling." Griffiths (2000) explained that the withdrawal symptoms refer to the unpleasant

feeling states and/or physical effects which occur when the particular activity is discontinued or suddenly reduced. Griffiths (2000) refers the conflicts and those around them or from within the individual themselves which are concerned to the particular activity. Griffiths (2000) refers relapse as the tendency for repeated reversions to earlier patterns of the particular activity to recur and for even the most extreme patterns typical height of the addiction to be quickly restored after many years of abstinence or control.

Methodology

This study is a quantitative correlational research. Pen and pencil, self-assessed survey form and questionnaire are the main data collection method. Two-stage cluster sampling is utilized in this study. The standard sampling size needed for this research is 384. The first stage of clustering are selected using ordinary cluster sampling methods.

Instrument and Scoring

Demographic Characteristics Sheet.

The demographic characteristics consist of variables which are: (1) Age; (2) gender; (3) race/ethnicity; (4) place of Internet access, and (5) experience of Internet use. The items are presented in the following method: age – tick boxes of 13 years-old, 14 years-old, 15 years-old and 16 years-old; gender in two tick boxes – male and female; race in four tick boxes – Malays/Bumiputras, Chinese, Indians and others; social; place of Internet access in options that consists of home, school computer lab, Cyber Café, friends' or families' house and company; experience of Internet use are classified in three tick boxes – 0-2 years, 3-5 years and 6-8 years.

Internet Addiction Test (IAT).

Developed by Dr. Kimberly Young (1998), the established questionnaire IAT consists of 20 questions with a five-point Likert Scale (a graded response of 1= “rare” to 5 = “always”). The psychometric properties of the instrument cover areas of salience, excessive use, neglect work, anticipation, lack of control and neglect social life. For example, “How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?” shows excessive use related to Internet addiction. The minimum scores is 20, and the maximum is 100; the higher the score, the greater level of Internet addiction. The categorization of scores fall into three: 20-39 points is an average online user who has complete control over Internet use (low level), 40-69 points signifies a person with frequent problematic behaviours shown due to moderate level of Internet addiction and 70-100 points directs a person with heavy dependency on the Internet (high level).

Types of Internet Use.

This instrument is used to explore the types of Internet use and time used on Internet related activity. The survey consists of 14 items that are presumed types of Internet activities. Accounts of all time spent online for any purpose in any of the following activities: (1) browsing the World Wide Web; (2) sending/receiving emails; participating in social networking websites; (3) finding information about studies; (4) banking and paying bills online; (5) looking at news websites; (6) using chat rooms and/or Instant Messaging; (7) watch online shows or videos; (8) playing games

online; (9) Maintaining a website or a blog; (10) finding information about health related issues; (11) online gambling and (12) others. The instrument is calculated in a 3 point Likert scale (1- “seldom”, 2- “sometimes” and 3 “always”).

Time-used Online.

The online duration is surveyed by (1) estimated time spent online per day; (2) frequency of Internet use per week. Estimated time used or spent online per day and frequency of Internet use per week is filled in by respondents on the blank given.

Validity

Content Validity.

In this study, the instruments of Internet Addiction Test (Young, 1996) and Malay Version Internet Addiction Test (Ng et al., 2011) are adopted. This is to overcome language barriers in understanding of terms. The MVIAT is an established and direct Bahasa Malaysia translation of IAT. The overall meaning of the item and structuring of questionnaire are tested with good internal consistency (Cronbach’s Alpha = .91). Secondly, the questionnaires are reviewed and verified by the research supervisor for appropriateness of content. Feedbacks and recommendations are given for amendments.

Construct Validity.

The construct validity refers to the suitability of theoretical constructs that it purposed to measure in items (Cohen et al., 2007). The constructs of Internet Addiction Test (1996) are in a six factor model salience, excess use, neglecting work, anticipation, lack of self-control and neglecting social life. The validity reported by various researches is consistently high. For instance, Ngai (2007) conducted a Chinese version of Internet Addiction Test among students age 10-15 in Hong Kong and derived a Cronbach’s alpha 0.63-0.82 reliability and reported strong construct and convergent validity. The test is also recruited in many other languages (Widyanto & McMurrin, 2004; Chang & Man Law, 2008; Khazaal et al., 2008) and reported of acceptable levels of reliability and construct validity.

Pilot Study.

According to Creswell (2008), a pilot test ensures the clarity of questionnaire items, instructions and layout. Therefore, this research uses pilot study to evaluate the questionnaire that are adopted and translated. The instrument is used in a pilot test using 40 students of SMK Cheras Jaya. Data of the pilot test was analyzed using Cronbach Alpha (satisfactory level .70 – Leech, Barret & Morgan, 2005). The results show that the reliability index shows high index of reliability. In Internet Addiction Test (20 items), the Cronbach Alpha (Pilot, N=40) shows .80 while the Cronbach Alpha (Actual, N=431) shows .83. In addition, the researcher collected feedback from pilot test respondents regarding the clarity items. Minor changes were made.

Procedure

Using convenience sampling to choose schools from the school list, the researcher distributed questionnaires to colleagues that willingly help to conduct the study. The pencil and paper test is estimated to use up an hour or less to answer fully. The setting provided by the schools is vacant

classrooms or Science Labs. The researcher conducts the survey by 40 students in a batch. The questionnaire is then distributed. Before the survey, the researcher explains about the guarantees of anonymity and the objective of the survey. After a short question and answer session, the time for answering the survey form starts. The researcher explains thoroughly about the meaning of the items when the participants face problems. After completing the survey, the forms are collected and participants are given tokens of appreciation.

Research Finding and Discussion

Gender differences in Internet Addiction level among respondents.

Using Independent samples t-test, it is found that time average spent online per day and frequency of Internet use per week is not significantly differently between male and female. However, the total IAT scores between male and female are significantly different [$t(431)=.006, p<0.05$]. Male score higher in total IAT score than female. Empirical studies have suggested gender as a extrapolative aspect of Internet Addiction. Male Internet users were more prone to Internet Addiction, as suggested by several researchers (Morahan-Martin & Schumacher, 2000; Chou & Hsiao, 2000, Griffiths, 2000; Scherer, 1997). The results in this aspect of the study are consistent with previous findings. This result suggests that male Secondary School students are more likely to be preoccupied or obsessed with certain Internet features that provide multifaceted information, stimuli and connection. It is speculated that male are more drawn to high-engagement level Internet features that requires them to achieve higher mastery levels (Smahel, 2010). The stronger feeling of “Flow” or engagement in an Internet gaming society is an appealing feature to male students as well.

Relationship between time-used online and Internet Addiction Level.

The time-used online (time spent online per day and frequency of Internet Use per week) and total IAT scores are correlated using Pearson Correlation Coefficient. The results show that time average spent online per day and frequency of Internet Use per week is positive and moderately correlated ($r=.640, p<.01$). Time spent online per day is found positively and moderately correlated ($r=.721, p<.01$) with total IAT scores. Frequency of Internet Use per week and total IAT scores are positively correlated ($r=.796, p<.01$). It is worth mentioning that in several researches, time-used online were highlighted because previous studies have shown relevant associations of time and Internet Addiction (Chou & Hsiao, 2000, Young, 1996). It is said that in other established “addiction”, such as technological addiction, substance dependence and gambling addiction, components of salience, tolerance, withdrawal, obsessive and compulsive use were applicable in Internet Addiction. Other than that, heavy users often find themselves facing the urges of using more and more Internet for some reason, which symptom is often found in substance abusers. Further research is needed to authenticate and clarify these result findings connected to Internet Addiction.

Relationship between types of Internet use and time-use online among respondents.

Results show that surfing social networking Websites such as FB and Twitter has a positive and small correlation with time spent online per day ($r=.228, p<.01$) and a positive and medium correlation with frequency of Internet Use per week ($r=.372, p<.01$). Using online Chat rooms has a positive yet small correlation with time spent online per day ($r=.139, p<.01$) and frequency

of Internet Use per week ($r=.225, p<.01$). Watching online shows has a positive yet small correlation with frequency of Internet Use per week ($r=.178, p<.01$). Playing online games has a positive yet small correlation with time spent online per day ($r=.147, p<.01$) and frequency of Internet Use per week ($r=.291, p<.01$).

Relationship between types of Internet use and Internet Addiction level among respondents.

The results show that sending and receiving emails ($r=.134, p<.01$) has a positive yet minor correlation with total IAT scores. Surfing the Social Networking Websites such as Facebook and Twitter has a positive and medium correlation with total IAT scores ($r=.341, p<.01$). Using online chat rooms has a positive yet minor correlation with IAT scores ($r=.210, p<.01$). Watching online shows has a positive and medium correlation with IAT scores ($r=.233, p<.01$). Playing games has a positive and medium correlation with IAT scores ($r=.347, p<.01$). The three most popular Internet features that are frequented by Internet users are social networking websites, chat room function websites, online gaming features and watching shows or videos online. The types of function are significantly related to the level of Internet Addiction. These results are consistent with several previous studies (Chou et al., 1999; Chou & Hsiao, 2000; Kandell, 1998, Young, 1998). The reason of exceptional dependence on these types is as because of the aforementioned nature of Internet: the pleasure of control and interaction.

6. Conclusion, Implications and Recommendation

On the whole, the study shows that time-used online and types of Internet use predict Internet Addiction behaviour among Secondary school students. It is summarized as below:

- a. The more time spent in online activities, the more inclination of Internet Addiction is shown among Secondary School students.
- b. The types of Internet use that are related to Internet Addiction consist of communication and entertainment features.
- c. The more time spent in online activities, especially types of Internet use that consist of communication and entertainment features, the more inclination of Internet Addiction is shown among Secondary School students.

The findings of this study are able to present important information regarding factors of Internet Addiction among adolescents. It is essential to inform the education department to be aware of these growing phenomena in order to overcome the declining of academic performances and psychological well-being among adolescents. In the other hand, this research is hoped to be able to reach out and inform the public about the emergence of Internet addiction, not only as a threat to academic engagement and performance, but also in psychological well-being, health and psychosocial development. Another implication of the study is to form initiatives and awareness in family units, so that parents are able to monitor their child's behavior from home or from close range.

Internet Addiction should not be taken lightly. The best way to restrain this phenomenon is to start taking measures in preventing Internet Addiction, especially practitioners such as teachers, parents, community and the education department. Teachers are encouraged to expose adolescents to the effects of Internet Addiction in class. It is also advised for the teachers to take part in the

adolescents' lives and understand the problems they face. School counsellors should take initiative in investigating the prevalence of Internet Addiction among Secondary School students and organize interventions in school premises.

Other than that, parents should be more aware about Internet use and make sure that adolescents are using Internet appropriately in terms of time and content. Home computers should be located in an open area to monitor the use of Internet by adolescents. Computers should also be equipped with parent restrictions and firewalls in order to block unwanted content. In communities, education programs should be provided for parents and teachers. Public spaces for social and physical activities should be provided in community and other creative activities. The data of this study provides meaningful information regarding the factors that directly influences Internet Addiction level among Secondary School students. It is suggested to use a longitudinal research to reach for a better understanding of the development of Internet Addiction and additional factors towards Internet Addiction.

Next, many other variables are not included in the area of this study. Variables such as psychological factors, computer literacy, personality traits, weight, parenting styles and academic performances can be used in future researches. Third, information from this study can be further expanded by using different theoretical models. Using different instruments to measure Internet Addiction can bring better insight on this phenomenon. A self-assessed questionnaire was used in this study. In future research, teacher and parent reports can be included in line with self-assessed surveys. This would allow researcher to draw more reliable conclusions about the prevalence and predictors of Internet Addiction. Interview and observations can be included in the study as well. Last but not least, this study can be used on other age levels, such as college goers, adults or even younger children.

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