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An Assessment of Internet Addiction among Pre-University Students

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ABSTRACT

Online activities have become the norm in today's society; therefore, it is necessary to investigate addictive internet usage especially among students. In this study, a total of 75 students aged 18–19 years old were randomly selected among the pre-university students as the respondents. They were required to fill in questionnaires, which included the Internet Addiction Test (IAT) and demographic information such as gender and parental monitoring. However, five questionnaires were excluded due to the missing values. Overall, the findings indicated rates of internet addiction at 52.86%, with severe addiction at 1.43%. While severe internet addiction is not common, moderate internet addiction seems to be, as it was reported at 51.43%. Additionally, internet addiction was higher among males compared to females (72% vs 42%). The three highest-ranked online activities were school work (100%), entertainment (100%) and social networking (97.14%). Overall, parental monitoring significantly impacted the rates of internet addiction. Hence, parental monitoring needs to be considered when designing and implementing interventions for internet addiction.

Keywords: Internet addiction, internet use, online activities, parental monitoring, pre-university students

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INTRODUCTION

The contemporary internet serves as a resource for accessing information and as a network for social interaction. This belief is especially true for adolescents, who are at an age where information seeking and social comparison is magnified (Livingstone et al., 2017). The most significant development of the internet is the interaction between

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individuals, regardless of their geographic location. Moreover, the internet is the epitome of successful information infrastructure (Internet Society, 2019).

The advancement of internet technology has both positive and negative consequences in our daily lives. Examples of negative impacts include: 1) an individual feels restless without the internet, 2) an individual stays online longer than intended, 3) an individual ignores social relationships due to internet usage. These behaviours indicate that the person is at risk of internet addiction (Young, 1998). Internet addiction can be defined as an inability to withdraw from the use of the internet despite adverse consequences; this behavior persists over a significant period (Kuss & Lopez-Fernandez, 2016; Tang et al., 2014). The internet offers more options and applications for virtual human engagement with the expansion and advancement of technology (Koay, 2018).

There is a higher variation in the prevalence of cyber addiction among young people and adolescents, ranging from 8.1% to 50.9% (Mak et al., 2014). With the development of technology, the internet usage may accelerate to a greater extent in the future. Consequently, there is a reason to believe that more people, especially adolescents, will be affected by cyber addiction. Therefore, updated data is needed to illustrate the current internet usage; this will help to develop relevant interventions for internet addiction.

The findings from Cerniglia et al. (2016) found that internet addiction caused both psychological and social difficulties. Furthermore, several studies have shown that internet addiction negatively affects adolescents' positive well-being (Chung et al., 2019; Telef, 2016; Valkenburg & Peter, 2007; Xin et al., 2018). Given this, the study of internet addiction is both timely and necessary.

In 2016, there were 3.9 billion internet users, which was 51.8% of the world's population. This figure has increased to 4.1 billion users, dominating 54.4% of the world's population (Internet World Stats, 2018), indicating that internet usage has grown worldwide. Internet usage in Malaysia is at 78.8%, representing 2.4 million people and has become an essential daily routine for Malaysians. As Malaysian students will become future leaders of our country, it is crucial to investigate the attitudes of students towards the internet usage.

The Eleventh Malaysia Plan for 2016–2020 emphasized the utilization of technology to boost productivity, which shows the importance of technology, especially the internet, to access digital infrastructure (Lee, 2018). In light of this, monitoring the status of internet usage is essential to understand the behavior of the internet. This study is unique as it provides updated estimates of internet addition among pre-university students and identifies patterns of internet usage. To the best of the authors' knowledge, research dealing with internet addiction among pre-university students is not yet available in the literature.

Hence, the research questions of this study are as follows:

a. Do the students spend most of their time per day using the internet?

b. Do the students experience severe internet addiction?

c. Which categories are the most and least frequent online activities among the students?

d. Does gender have a significant difference with the Internet addiction level?

e. Does the parental monitoring have a significance difference with the internet addiction level?

The research hypotheses are as follows:

a. H1: There is a significant difference between gender and internet addiction level.

b. H2: There is significant difference between parental monitoring and internet addiction level.

The findings obtained from this study are essential to identify the internet addiction level among the pre-university students. With these findings, appropriate measures can be taken to overcome the situation. Moreover, respondents will be aware of the symptoms of Internet addiction when answering the questionnaire. Hence, this will encourage the respondents to make an effort in controlling and managing their behaviors while using the internet.

This article is structured into several sections: Section 2 discusses the methods used in this study; Section 3 elaborates the results and discussion, and finally, Section 4 offers concluding remarks and opportunities for further research.

METHODS

Sample

A total of 75 students were randomly selected from 181 students in the 2017/2018 academic session. However, 5 students were excluded due to the incomplete questionnaires returned by them. Students were informed earlier that their answers would be anonymous. There were 35.7% of the respondents who were males, while another 64.3% were females. The university name is kept anonymous.

Data Collection Method

A survey design using questionnaire was employed in this study. The questionnaire consisted of two sections. The first section was used to measure the demographic data; for example, online activities, social network use, parental monitoring of internet usage. The second section in the questionnaire was adopted from the Internet Addiction Test (IAT) (Young, 1998) to measure the presence and severity of Internet dependency among students. The IAT consisted of 20 items, with each item rated on a 6-point scale ranging from 0 = "Not applicable" to 5 = "Always". Then, the item scores were added to obtain a final score. From the final score, it can be categorized as Normal Internet Use: 0-30; Mild Addictive Use: 31-49; Moderate Addictive Use: 50-79; and Severe Addictive Use: 80-100. The data collection included a paper and pencil questionnaire. The respondents took around 25-30 minutes to complete the questionnaire.

The study procedures were carried out following the permission from the Director of pre-university programs. All respondents were informed about the study, and those who would like to participate were required to provide an informed consent. The participation of the respondents were entirely voluntary, and the respondents had the right to decline to participate without any consequence, at any time. Moreover, the participation of the respondents was anonymous.

Data Analysis Procedures

Descriptive statistics and inferential statistics were employed for data analysis by using the Statistical Package for Social Sciences (SPSS) software. Descriptive statistics were utilized to answer the research questions a, b and c. Meanwhile, inferential statistics were used to answer research questions d and e. The results obtained were presented in the form of tables and figure.

RESULTS AND DISCUSSION

We investigated the prevalence of Internet addiction in reference to demographic characteristics and parental monitoring as risk factors. The mean age among the respondents was 18.9 ± 0.30 (Min: 18 – Max: 19); these pre-university students were the students who graduated from Malaysia Certificate of Education (SPM).

It is worth noting that the average number of years the students had been using the Internet was 3.9 years. This finding indicates that the students started to surf online around the age of 14.1 and 15.1 years old. Moreover, internet usage is integrated into students' lives; suggesting that people are starting to access the Internet earlier and highlighting the need for education in Internet usage for younger children. Figure 1 displays a bar chart representing the length of time spent using the Internet per day among the 70 pre-university students. From Figure 1, the majority of the sample (about 51.4%) reported that the length of time online per day was within 5 – 10 hours. The other 30% of the participants spent around 1 – 5 hours using the Internet per day. Only 2.9% and 15.7% of the participants spent less than 1 hour and more than 10 hours per day to use the internet, respectively.

The general characteristics of the participants are shown in Table 1. Since the severe addiction rate was very low, the moderate addiction and severe addiction were combined (IAT score ≥ 50). Therefore, the Internet addiction was classified into two groups, which were addiction and regular use (IAT score < 50) group. There were significant differences in the IAT scores between two groups with $t = 25.436$, $P < .001$ (See Table 2). Moreover, the "addicted" group (including severe and moderate addiction) spent significantly more time online than "regular" group ($t = 2.504$, $P < .05$). Table 1 shows that the three most frequent online activities among the participants were schoolwork (100%), entertainment (100%) and social networking (97.14%), followed by online shopping (60%) and online gaming (58.57%). Males reported the highest rates for almost all online activities

(P < .05) except for social networking (P = .402). These results were consistent with previous research conducted by Xin et al. (2018). There were 51.43% internet-addicted individuals who were using the Internet for schoolwork, entertainment and social networks.

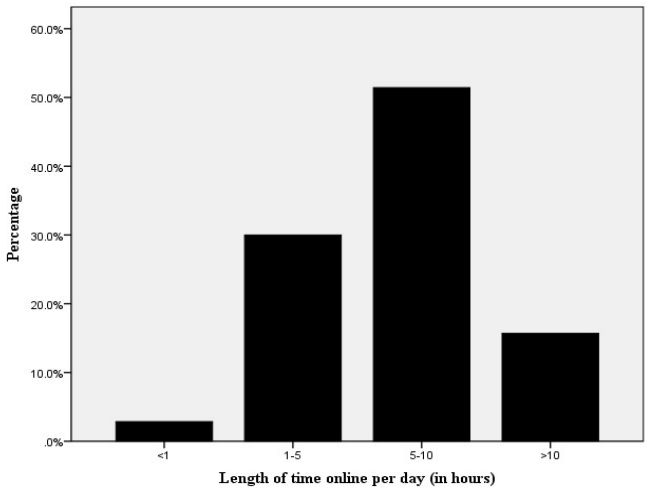

Figure 1. Length of time online per day (in hours) among the 70 respondents

Table 1

Demographic characteristics and online activities of the respondents, divided by the level of addictive internet use

	Normal use *n* (%)	Mild addiction *n* (%)	Moderate addiction *n* (%)	Severe addiction *n* (%)
Gender (*n*, %)				
Male	1 (1.4)	6 (8.6)	17 (24.3)	1 (1.4)
Female	5 (7.1)	21 (30)	19 (27.1)	0 (0)
Parental monitoring of online activities (*n*, %)				
Never	0 (0)	11 (15.7)	15 (21.4)	0 (0)
Occasionally	4 (5.7)	16 (22.9)	19 (27.1)	1 (1.4)
Often	2 (2.9)	0 (0)	2 (2.9)	0 (0)
School work (*n*, %)				
Use	6 (8.6)	27 (38.6)	36 (51.4)	1 (1.4)

Table 1 *(Continued)*

	Normal use *n* (%)	Mild addiction *n* (%)	Moderate addiction *n* (%)	Severe addiction *n* (%)
Social network (*n*, %)				
Use	6 (8.6)	26 (37.1)	35 (50)	1 (1.4)
No use	0 (0)	1 (1.4)	1 (1.4)	0 (0)
Entertainment (*n*, %)				
Use	6 (8.6)	27 (38.6)	36 (51.4)	1 (1.4)
Online gaming (*n*, %)				
Use	2 (2.9)	14 (20)	24 (34.3)	1 (1.4)
No use	4 (5.7)	13 (18.6)	12 (17.1)	0 (0)
Online shopping (*n*, %)				
Use	3 (4.3)	14 (20)	24 (34.3)	1 (1.4)
No use	3 (4.3)	13 (18.6)	12 (17.1)	0 (0)

Table 2

One-sample t-test for addiction level

					95% confidence interval of the difference	
	t	df	Sig. (2-tailed)	Mean difference	Lower	Upper
Addiction Level	25.436	69	.000	1.52857	1.4087	1.6485

Nowadays, utilizing electronic technologies (i.e., e-learning) has become a new platform for student learning, which has indirectly increased internet usage among students. Besides that, all participants used the internet for entertainment purposes to ease the stress from studying. Perhaps this can be explained by the fact that the pre-university students stayed in a hostel, where entertainment is limited; hence, many participants depended on the internet for their source of entertainment. Social networking sites such as Facebook and WhatsApp have gained popularity in recent years and have become the leading daily communication practice among students. This data is reflected in our results, which shows that social networking ranked in the

top three among all the potential online activities.

There was one participant in this study, who was classified as a severe internet addict. The prevalence rate was 52.86%, including moderate and severe internet addiction, with internet addiction higher among males than among females (72% vs 42%). Moreover, there was an association between gender and the severity of internet addiction ($\chi^2 = 5.719$, $P < .05$). This can be explained by the fact that the participants were adolescents, who may prioritize peer relationships and the strong wish for peer acceptance above all else. Subsequently, merely observing other classmates who show addictive internet usage has also been found to be associated with the increased likelihood of the internet addiction by their peers.

In the current study, the 'addicted' group showed significant differences in parental monitoring compared to the 'regular' group with $\chi^2 = 13.06$, $P < .05$, suggesting that parental monitoring was found to be a significant risk factor for Internet addiction. Parents who monitor their children's internet usage can provide useful role models on how to use the internet wisely. Furthermore, these parents may contribute to developing healthy relationships with online behavior and usage.

CONCLUSIONS

In short, internet usage has grown exponentially. There are multiple reasons for internet usage: 1) it helps the people to access information, 2) provides a platform for socialization. Nevertheless, excessive usage of the internet is both alarming and poses a social concern. The three most frequent online activities among participants were schoolwork, entertainment and social networking. Additionally, the level of parental monitoring of their children's internet usage plays an important factor in the level of internet addiction experienced among pre-university students. Future researchers might find it useful to include other risk factors that could contribute to the internet addiction, such as the relationship with lecturers. Limitations bound this study because only pre-university students were selected as respondents. Thus, the results of this study are only applicable to the pre-university students. Therefore, future research may also include students from other degree programs such as Bachelor degree and Master degree programs.

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