Facebook Addiction among Malaysian Students

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Abstract—In recent years, Social Networking Sites (SNSs) have become a major communication vehicle in all societies. Facebook has become the most popular social networking site with more than 2.2 billion users. The pleasure that Facebook has brought has led to some addictive behavior among its users. This study employed the Bergen Facebook Addiction Scale to investigate Facebook addiction among students. In this study, we selected a sample of 441 students in Universiti Teknologi Malaysia as respondents. Results show that 47% of the participants were addicted to Facebook. This ratio is almost the same among postgraduate and undergraduate students, and interestingly, among Malaysian and non-Malaysian. Much speculated factors such as religion, level of income, ego strength and locus of control do not show significant influence on the risk of Facebook addiction. Lastly, the results suggest that as people spend more time on Facebook, there is a greater chance of addiction.

Index Terms—Facebook addiction, social networking sites, students.

I. INTRODUCTION

Internet-mediated interaction showed negative effects on wellbeing. Different researches have shown negative effect of heavy SNS use and depression [1], anxiety [2], histrionic personality, [3] and addiction and dependency [4]. Having this in mind, the widespread use of SNSs and particularly Facebook [4] among youths should raise some crucial attention. Even though it is still too early to see the whole negative impact of Facebook addiction in our societies and there is still more to come.

In recent years, it has been recognized that the impact of Information Technology (IT) addiction has become considerably more important. Many researches have been conducted on this topic (e.g. [5]-[7]). It became a global concern and considered as a health issue [8]. Information Technology addiction took different forms including mobile phone addiction [9], online sex addiction [10], [11], computer games addiction [12], online shopping and gambling addiction [13], Internet addiction [14]. A more recent topic in the field of IT and Internet addiction is Social Networking Sites (SNS) addiction [15]. The most popular SNS in

Malaysia is Facebook with more than 13 million Malaysian users [16]. This research aims to investigate the trend of Facebook addiction among students using Bergen Facebook Addiction Scale (BFAS) [17] tool.

II. BACKGROUND OF STUDY

Addiction in general is defined as "the condition of being unable to stop taking or doing something harmful [18]. Different ethics' schools of thought believe that individuals are rational beings who have the ability to use their critical judgment to manage their lives [19]. Kant believed that whatever controlled an individual's mind and stopped him or her from using judgment is a vice [20]. Hence, addiction which is a desire that control your mind can be considered as a vice and is unethical.

In 1970, two individuals predicted that the joy which will be brought by computers will be extremely captivating and the attraction of computers will be far greater than any other hobby [21]. In 1976, Joseph Weizenbaum [22] claimed that feelings of power and freedom attract computer programmers to their machines. He believed the reason behind this feeling is that instead of physical objects, programmers deal with bits and they are free to design their imagination and the machine will execute their orders without question. This may lead them to a compulsion to program. Weizenbaum's idea was later echoed by different scholars and became a topic in both fields of Psychology and Computer [23].

Currently, some people spend between 40-80 hours online each week which has different harmful consequences. In addition to some physical issues like eyestrain, back strain and carpal tunnel syndrome, it can affect the relationships with friends and family members [24]. In his study on computer addiction, Shotton [25] observed that those who are dependent on computers from a very early age show little or no satisfaction in interacting with others and their attitude toward other people is significantly negative. He states that:

"Attending school apparently proved difficult for most of the Dependents. They did not mix well and felt themselves to be different from the other children, often being ostracized by their peers because of their intellectual interests and abilities. Neither were they particularly popular with their teachers. They found formal teaching methods stultifying, preferring to undertake their own research into a subject." [25].

In recent years, the impact of technology addiction has become more and more important. Many researches have been done on it and it has become a global concern and is now considered a health issue. For instance, Internet addiction was suggested to be considered as a cause of mental disorder [26] and has been included in "Diagnostic and Statistical Manual of Mental Disorder" [27].

According to a survey done by global insurer AIA Group Ltd in 2013, although internet diffusion in Malaysia is not as high as other countries in the region, 73% of adults who have been interviewed in Malaysia agreed that their online activities including social networking are becoming addictive. This places Malaysia in the highest rank among countries in the region. This case is not limited only to adults; another study which was done on a random sample of Malaysian youth suggests that a great proportion (64%) of studied individuals considered themselves as internet addicts [28]. This is a new threat to healthy living style and it can be said that Malaysian internet users are at a high risk of being Internet addicts. This issue needs action to be taken to overcome the problem [29].

III. METHOD

A. Participants

Four hundred and fifty nine students from Universiti Teknologi Malaysia participated in this study. The sample was selected in convenient basis in which all the respondents were SNS users. After removing eighteen incomplete or incorrect questionnaires, sample consisted of 51% male and 49% female aged from 17 to 48 (Mean 24.8 years, SD 5.41). Among them, 58% were undergraduate students and 42% were postgraduate students.

B. Design and Procedure

As discussed before, the BFAS were used in this study to measure Facebook addiction. This scale contains six questions on 5-Likert Scale basis each reflecting a dimension of six basic components of addiction proposed by Brown [30] and Griffiths [31] (salience, mood modification, tolerance, withdrawal, conflict and relapse). BFAS asks the respondents to answer how often during last year they have experienced the following: "1. Spent a lot of time thinking about Facebook or planned use of Facebook", "2. Felt an urge to use Facebook more and more, "3. Used Facebook in order to forget about personal problems", "4. Tried to cut down on the use of Facebook without success", "5. Become restless or troubled if you have been prohibited from using Facebook." And "6.Used Facebook so much that it has had a negative impact on your job/studies." Respondents have 5 options ranging from very rarely to very often and need to pick their answers among them.

In addition to this scale, Barron's Ego strength scale and Locus of Control (LOC) scale were included in this research since previous studies reflected their impact on addiction. These two were Barron's Ego strength scale [32] and Rotter's Locus of Control [33].

Ego strength refers to an individual's conviction strength and self-regulation skills [34]. Individuals who have higher ego strength are expected to resist impulses and follow their conviction more than people with lower ego strength [35]. On the other hand, Locus of Control is the extent to which a person perceives that consequences are the results of his or her own behavior instead of outside forces that may occur independent of his or her own action [36]. Locus of Control in an individual could be conceptualized either internally or externally [37]. With the internal concept of LC, people

believe that they have control over their lives and with the external concept, they believe that their acts and decisions are controlled by factors like environment, fate, chance, etc. which they have no control over [38]. This perception is not like none or all and could be varied in the degree that an individual believes in the role of internal and external forces. The reason behind including ego strength and LOC scales to this study was their impact on addiction as presented by previous studies [39]-[42].

As well, demographic information like gender, age, level of education ((under/post)graduate), citizenship (Malaysian/ non-Malaysian), level of income and SNS usage per a day were included in the questionnaire.

IV. RESULTS

TABLE I: RATIO AND THE NUMBER OF FACEBOOK ADDICTION AMONG STUDENTS BASED ON DIFFERENT CATEGORIES

		Total	Ratio
Age	<=20	98	57%
	(20-22]	107	51%
	(22-25]	81	35%
	(25-29]	81	38%
	>29	74	49%
Gender	Male	224	48%
	Female	217	45%
Religion	Muslim	364	49%
	Non-Muslim	77	36%
Citizenship	Malaysian	296	47%
	Non-Malaysian	145	46%
Level of Education	Undergraduate	257	50%
	Postgraduate	184	42%
SNS Hour Daily	Less than 1 hour	39	28%
	[30 min - 1 hour]	100	35%
	[1-3) hours	141	51%
	[3-4) hours	74	47%
	[4-5) hours	31	58%
	7< hours	54	65%
Years Using SNSs	Less than 4	171	42%
	4 and more	269	51%
Level OF Income (RM)	Less than 1000	284	51%
	1000-2000	76	37%
	More than 2000	38	34%
Ego Strength	Low	109	45%
	Medium	69	49%
	High	28	47%
Locus of Control	Low	52	40%
	Medium	136	50%
	High	18	46%
Total (N=441)		206	47%

As suggested by BFAS developers [17], polythetic scoring scheme was used to determine the Facebook addicts in the sample. This scheme suggests those who answer 3 or above

on at least four of the six items are Facebook addicts. Based on this scheme, 206 out of 441 cases were Facebook addicts which reflect a high ratio of 47% among the studied sample. Table I summarizes the ratio and number of Facebook addicts based on different characteristics of respondents.

As presented in Table I, the highest ratio of addicts in different categories of age was observed among students younger than 20 years old (57%). However, it seems that Facebook addiction is not related to gender since the ratio of addicts among both males and females are approximately the same (respectively 48% and 45%). In case of religion, a difference could be observed which might have been caused by the distribution differences among the respondents' religion (364 Muslims and 77 non-Muslims including Christians, Buddhist, Hindu, etc.). Malaysian Citizenship, education and history of using SNSs in addition to ego strength and locus of control seem to have the same ratio among different categories. Just like religion, level of income also reflects some difference among the different classes which might be due to sampling errors. The only factor that reflects a considerable change in different categories is the SNS online hours per day.

TABLE II: ANALYSIS OF VARIANCE MODEL FOR FACEBOOK ADDICTION RESULTS

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	58.298ᵃ	30	1.943	2.101	.001
Intercept	.745	1	.745	.805	.370
Age	.082	1	.082	.089	.765
Gender	.127	1	.127	.138	.711
Religion	1.286	4	.321	.348	.846
Citizenship	.093	1	.093	.101	.751
Level of Education	.270	1	.270	.292	.589
SNS Hours Daily	27.591	6	4.599	4.972	.000
Years Using SNS	3.533	5	.707	.764	.576
Level of Income (RM)	9.549	7	1.364	1.475	.175
Ego Strength	2.487	2	1.244	1.344	.262
Locus of Control	2.459	2	1.229	1.329	.266
Error	355.193	384	.925		
Total	413.498	415			
Corrected Total	413.491	414			

a. R Squared = .141 (Adjusted R Squared = .074)

Across different groups, an incremental ratio of addicts is observed which means that the more SNS usage per a day, the more the ration of addicts. It is a conceptually sound observation since addicts need to use more, and they theoretically should spend more time surfing their Facebook pages. To test whether any significant difference is observed among different groups of respondents, addiction score was calculated using Factor Analysis based on the 6 items of BFAS. Having the addiction scores, analysis of variance model was applied to investigate the effect of these factors on

addiction. Table II reflects the results of this test in this study.

Taking *Sig*<0.05 as a significant difference, the only considerable amount was observed on daily hours spent on SNSs. The remaining factors did not reflect any significance in the Facebook addiction. In addition, tests were repeated employing logistic regression by categorizing original addiction score into two groups, addicts and not-addicts, using both conservative (scoring 3 or above on all six items) and liberal scoring (same as what is done in current research) as suggested by Andreseassen *et al.* [17]. All of these tests were repeatedly performed with different sets of categories for ego strength, locus of control and age. Similarly, none of these attempts reflected any difference and the only significant difference belonged to hours spent on SNSs. These results suggest that SNS addiction is not related to any of aforementioned factors and the chance of people being addicted to Facebook is almost the same in different categories.

V. CONCLUSION

According to the findings of this study, 47% of the survey respondents could be considered as Facebook addicts. Despite other researches that reflected a considerable difference among Facebook addicts' gender, (e.g. [43]), in current sample, no significant difference was observed based on respondents' gender. This was the same for other investigated variables, including age, religion, citizenship, level of education, number of years they were using SNSs, level of income, ego strength and locus of control. The only considerable difference was observed in the hours spent on Facebook and other SNSs daily. This could reflect a unique characteristic of Facebook addiction, which needs more investigation.

In addition, Future studies can focus more on other aspects of Facebook addiction. For instance, with easy access to the internet and the existence of smart phones, people have access to SNSs any time, any place. But, the unmanageable use of Facebook may have some impact on their ability to fulfill their responsibilities or communicate with real friends. In future studies, more can be done on the extreme usage of Facebook and other SNSs and the issues that may arise due to this addiction.

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