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Correlation Analysis between Internet Addiction and Self-Regulation among Thai University Students

Supat Chupradit[1*], Tanaporn Tonghom[1], Priyanut Wutti Chupradit[2], Tippawan Sookruay[3]

[1]Department of Occupational Therapy, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai 50200, Thailand
[2]Educational Psychology and Guidance, Department of Educational Foundations and Development, Faculty of Education, Chiang Mai University, Chiang Mai 50200, Thailand
[3]Chiang Mai University Library, Chiang Mai University, Chiang Mai 50200, Thailand

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KEYWORDS

Internet usage behaviour

Internet addiction

Self-regulation

University students

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ABSTRACT

The self-regulation of internet activities is a challenge between technology and human interaction, particularly in adolescents. It is very important to study the relationship between self-regulation and internet addiction since humans have become closely connected to technology in recent decades. The objective of the present research was to study the relationship between internet addiction and self-regulation by assessing the habits of university students. The samples consisted of 500 first-year students residing in Chiang Mai University dormitories, and data were collected from questionnaires regarding personal information, the Internet Addiction Test (IAT), and self-regulation assessment. Pearson's correlation coefficient was used to investigate the relationship between internet addiction and self-regulation. The results of the study revealed that the level of internet addiction had a moderately positive relation with poor self-regulation, which had a correlation coefficient of 0.560 with a statistical significance level of 0.01. Further, the level of internet addiction had a low negative relation with good self-regulation, which had a correlation coefficient equal to -0.262 with a statistical significance level of 0.01. Hence, creating the necessary assistance and solutions is required to achieve a healthy balance in the behavior of young individuals.

* Corresponding author
E-mail: supat.c@cmu.ac.th (Supat Chupradit)

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1 Introduction

These days internet becomes an important part of our daily life and youths are using the internet frequently for their personal and beneficial purposes (Charoenwanit 2014; Kuss and Griffiths 2017; Cahill and Beisbier 2020). However, those who use the internet too much could cause positive and negative physical as well as mental consequences (Young 1996, 1998, 1999; Ju 2007). Further, recently it has been reported that university students use internet media for their entertainment purposes and to relieve stress, but it has been found that excessive use of the internet could cause addiction along with other problems in education or health aspects in some cases (Chupradit et al. 2019, 2020a, b; Vadivu and Chupradit 2020). It has also been reported that in some cases the absence of internet surfing or inability to use the internet might cause anxiety in active internet-using students or users (Caplan 2002; Lam 2014; Jelenchick et al. 2016; Lemmens and Hendriks 2016; Starcevic and Aboujaoude 2017; Leménager et al. 2018). One suitable solution is to surf the web properly in short intervals with limitations and change actions into workouts, reading, or other activities of interest for the benefit of one's physical and mental health (Prasertsin 2009).

Self-regulation is the ability or capability of an individual to exercise self-supervision consciously and intentionally to change his/her response to the desired standards for future rewards or to suppress automatic responses to low-value behaviors. It is a cognitive control as it signifies the ability to think before you act in an attempt to develop coexistence with self-observation, self-judgment, and self-reaction (Błachnio and Przepiorka 2016). An individual uses his/her internal standards to motivate himself/herself to conduct behavior and evaluate his/her reactions, in which everything depends on the one who acts them (Srikan 2009). The development of life at all stages requires adaptation to changes. In this regard, college life is filled with changes in many aspects, including physical, mental, emotional, and social as an individual transitions from being a high school student to a university student. University students may face difficulties in peer group activities and time management. In particular, for students living in university dorms, there are dormitory rules with which they must comply, and the need to adapt to living with others. Such factors require self-regulation in their daily activities, and time management so that student life runs efficiently.

Dormitory life is an important phase of college life where students experience lifelong learning, improve their life and social skills, and help each other with a sense of sharing and caring for one another. They learn how to live happily with others, allowing them to grow together emotionally, as well as exchange ideas and knowledge with each other, thus fostering mutual understanding and forming friendly relations. The student dormitory is a place to improve the quality of students by providing them a way of life in the dormitory as a learning mechanism (Student Dormitory Office CMU 2018).

From the occupational therapy perspective, the principle of the Person-Environment-Occupation-Performance (PEOP) Model (Charles 2005) states that the relation and balance of the 3 components, i.e. individual, environment, and lifestyle activities, will affect the behavior and ability to do good and meaningful activities. This model could be used to explain internet usage behavior among students in terms of how it affects their self-regulation in other activities and if they are obsessed with the internet. A lack of balance in these 3 components will result in impaired activities and a decreased ability to perform other activities. It has been found to affect the interest, thinking, and decision-making ability in other activities so that they are no longer capable of maintaining a balance between their needs in the working environment and participation in various activities. This makes them unsuccessful in doing activities and will affect their ability to adapt when facing challenges due to less participation in lifestyle activities (Abaoğlu et al. 2017; Cahill and Beisbier 2020).

As mentioned above, it is obvious that excessive usage of the internet by young people is a major problem that growing day by day. This made the researcher more interested in internet usage behavior and self-regulation among students by focusing on the relationship between them. In the present study, first-year students residing in the dormitories at Chiang Mai University comprising students from various faculties and programs were selected as the study population. In dormitories, students can use the unlimited internet provided by the university to access the internet everywhere. Moreover, a dormitory often has periods of access to the internet, meaning most students stay for a specified time to have more free time in the dormitory. As a result, they have the chance to use the internet for extended periods, which is advantageous for the students in university dormitories. For this reason, the researchers aimed to study the internet usage behavior and self-regulation of first-year students living in the dormitories at Chiang Mai University and to analyze the correlation between internet addiction and self-regulation.

2 Materials and Methods

2.1 Population

A total of 3,991 first-year students residing in the dormitories at Chiang Mai University, Mueang, Chiang Mai Province, who were in their first semester of the academic year 2018, participated in this study.

2.2 Samples

The samples included 500 students. The criteria for sample selection included: age of 18 years and older, no serious illnesses

or disabilities, and willingness to give consent to participate in the research. The exclusion criteria included volunteers with severe illnesses or disabilities and volunteers who did not agree to or were not ready to answer the questionnaire.

2.3 Research Tools

A well-structured questionnaire was prepared for extracting general information from the selected respondents. Further, internet usage was also evaluated during the study period. The researcher used the Internet Addiction Test (IAT) tool by Kimberly Young (Internet Addiction Test 1998), with a confidence value of 0.89, consisting of 20 questions to evaluate the level of internet usage. The samples answered of the selected questions assigned to particular numbers that matched the opinion and behaviour of the respondents, e.g. 1 = Infrequent, 2 = Occasional, 3 = Frequent, 4 = Regular, 5 = Constant, and 0 = Unable to specify. The interpretation of the internet usage assessment is as follows: A total score of 100 points divided into 4 levels including None (not addicted), Mild (mildly addicted), Moderate (moderately addicted), and Severe (severely addicted).

The self-regulation assessment form by Wattananonsakul (2009), consists of 24 questions, which are divided into two sub-measures comprising poor self-regulation in 12 positive questions, good self-regulation in 12 questions, 10 positive questions, and 2 negative questions, with 5-level rating scales. A high score means a very good level of self-regulation, while a low score means a low level of self-regulation. In this regard, this tool made use of a translation process to enable the precision quality of the tool. Both measures of good and poor self-regulation have Cronbach's alpha values of 0.82 and 0.80, respectively.

2.4 Data Analysis and Statistics

2.4.1 Data analysis with descriptive statistics

Frequency and Percentage are used to describe general information with mean and standard deviation.

2.4.2 Data analysis with inferential statistics

The researcher used Pearson's Correlation Coefficient when the data had a normal curve distribution and the Spearman Rank Difference Method when the data did not have a normal curve distribution. The criteria for determining the relation level are as per Taweerat (2000), and the detail is as (i) if the correlation coefficient is 0.80 - 1.00, is considered to be very high, (ii) if the correlation coefficient is 0.60 - 0.79, is considered to be high, (iii) if the correlation coefficient is 0.40 - 0.59, is considered to be moderate, (iv) if the correlation coefficient is 0.20 - 0.39, is considered to be low and (v) if the correlation coefficient is 0.00 - 0.19, is considered to be very low.

3 Results

3.1 The general information and characteristics of the samples

Results presented in table 1 suggested that the sample group consisted of 500 students, comprising 165 male students (33.0%) and 335 female students (67.0%). In terms of the major subject studied by respondents, the majority of the respondents (42.6%) studied human-social science as a major subject; this was followed by science-tech (38.0%) and science-health (19.4%). The samples have an age range of 18 to 21 years old with an average age is of 19.04 years.

3.2 Level of internet addiction

Results presented in table 2 suggested that the participated respondents have four levels of internet addiction. Most of them have mild internet addictions (50.2%), followed by moderate (33.6%), no addiction (15.6%), and severe internet addiction (0.6%). Among the studied 500 respondents, a total of 422 respondents (84.40%) had internet usage behavior varying from the lowest level to the severe level of internet addiction.

Table 1 General Information and Characteristics of the participating respondents

General Information and Characteristics		Number of Samples	Mean ± S.D.	Percentage	Total
Gender	Male	165	1.670 ± 0.47	33.0	500 (100%)
	Female	335		67.0	
Major subject	Science-Tech	190	2.046 ± 0.89	38.0	500 (100%)
	Science-Health	97		19.4	
	Human-Social	213		42.6	
Age	Min (y)	Max (y)		Average (y)	S.D.
	18	21		19.04	0.58

Sample size n = 500; S.D. =Standard Deviation

Table 2 Level of Internet Addiction (n = 500)

Level of Internet Addiction		Number of Samples (Percentage)	
None (0-30)		78 (15.6)	
Mild (31-49)		251 (50.2)	
Moderate (50-79)		168 (33.6)	
Severe (80-100)		3 (0.6)	
n	Min – Max (score)	Mean	SD
500	3-84	43.82	13.71

Sample size n = 500; S.D. =Standard Deviation

3.3 Self-regulation Scores of the Samples

In the case of self-regulation, the poor self-regulation scores ranged from 12 to 52 with an average self-regulation score of 27.66. While in the case of good self-regulation scores it ranges from 20 to 60 with an average score of 42.50 (Table 3).

3.4 Scores for self-regulation of the samples by gender

In the case of gender-specific self-regulations, male respondents have poor self-regulation, and their scores ranged from 12 to 49 with an average score of 29.74. Furthermore, the male's good self-regulation scores range from 20 to 60 with an average score of 41.93. In the case of females, they have poor self-regulation scores ranging from 12 to 52 with an average score of 26.64 and good self-regulation scores ranging from 20 to 60 with an average score of 42.78 (Table 4).

3.5 Correlation between internet addiction and self-regulation

The correlation coefficient of data using Pearson's correlation coefficient (Table 5) has revealed that the level of internet addiction has a moderate level of positive relation to poor self-regulation, which has a correlation coefficient of 0.56 with a statistical significance of 0.01. The level of internet addiction has a low negative relation to good self-regulation, which has a correlation coefficient equal to -0.26 with a statistical significance of 0.01.

4 Discussion

Results of the study suggested that most of the participants had a higher average score of good self-regulation. Good self-regulation is the ability of an individual to control and determine their behavior consciously and intentionally by using thoughts and reason to achieve the goals they set. During the student phase of life, a young individual goes through maturity, accepting various responsibilities such as education, living with friends, and engaging with other people in society, which in turn makes an individual learn good self-regulation skills and strive for improvement. These are factors that should motivate an individual

Table 3 Self-regulation Scores of the Samples

Self-regulation	Lowest Scores	Highest Scores	Mean	SD
Poor Self-regulation	12	52	27.66	8.35
Good Self-regulation	20	60	42.50	5.94

Sample size n = 500; S.D. =Standard Deviation

Table 4 Scores for self-regulation of the samples by gender

Gender	Samples	Self-regulation	Lowest Scores	Highest Scores	Mean	SD
Male	165	poor self-regulation	12	49	29.74	8.33
		good self-regulation	20	60	41.93	6.18
Female	335	poor self-regulation	12	52	26.64	8.18
		good self-regulation	20	60	42.78	5.80

Sample size n = 500; S.D. =Standard Deviation

Table 5 Correlation between Internet Addiction and Self-regulation

Addiction	Internet Addiction	Poor Self-regulation	Good Self-regulation
Internet Addiction	1		
Poor Self-regulation	.560**	1	
Good Self-regulation	-.26**	-.36**	1

**p < 0.01

to be more self-disciplined. Results of the current study revealed that internet usage behavior had an effect on both poor and good self-regulation with statistical significance at the level of 0.01.

In terms of poor self-regulation, it has a moderate level of positive relationship with the level of internet addiction. The correlation coefficient is 0.56. It can be summarized that students who have high scores in poor self-regulation also have a high level of internet addiction. On the other hand, students who have low scores of poor self-regulation also have a low level of internet addiction. This result is consistent with the previous study. Li et al. **(**2021**)** found that students with less self-regulation had greater internet addiction. Poor self-regulation is a lack of self-regulation by an individual to behave consciously and reasonably to achieve the goals they set, which puts an individual at risk since they perform various behaviors according to their emotions. If we look at internet usage, we could point out the usage of the internet according to emotions. Further, internet addiction and spending too much time using the internet can eventually interfere with various other activities in daily life. However, an individual with good self-regulation would likely have fewer cases of actions that result from their emotions.

Good self-regulation has a low level of negative relation to the level of internet addiction, which has a correlation coefficient equal to -0.262, indicating that students with high scores of good self-regulation have a low internet addiction. Self-regulation is achieved through mindfulness and reasoning in thinking, considering, and contemplating the result of an action. If an individual has a high level of good self-regulation, it will affect the behavior of various aspects of expression through careful thought and consideration.

Conclusions and Future Research

In conclusion, the majority of the samples who participated in the present study had a low level of internet addiction, poor self-regulation scores at a low level, and good self-regulation scores at a low to moderate level. The results of the study revealed that students with poor self-regulation behavior scores tended to have high levels of addiction to the internet, while students with high scores for good self-regulation tended to have a low level of internet addiction with statistical significance at a level of 0.01. This study revealed that most of the samples had a low level of internet usage addiction. We could make use of the internet as a medium or a tool for teaching and learning by encouraging students. This study further revealed the time and the purpose of using the internet can promote the use of the internet for education, such as organizing online learning activities, self-study, workload, and homework for academic benefits. This study examined the relationship between internet usage behavior and self-regulation. Future research should include some more variables such as self-esteem, stress, anxiety, or psychosocial factors to develop self-regulation. Further, future studies could select respondents from a different context, such as students living in off-campus residences or samples from other age groups.

Ethical Approval and Consent to Participate

This research has been certified for ethical research in humans by the Ethics Committee, Faculty of Associated Medical Sciences, Chiang Mai University, Thailand Project number: AMSEC-60EX-017.

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