

A STUDY ON THE RELATIONSHIP BETWEEN ADDICTION BEHAVIOR TO SMARTPHONES AND THE LONELINESS OF STUDENTS FROM EAST YANGON UNIVERSITY

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Abstract

The main purpose of this study is to investigate the relationship between addiction behavior towards smartphones and the loneliness of students studying at East Yangon University. The study was conducted using the correlational survey method. The study group comprised 216 students, 102 males (47.2%) and 114 females (52.8%). In the study, the smartphone addiction scale developed by the smartphone's functions (Kwon, Lee, Won, Park, Min, & Hahn, 2013) was used to investigate the smartphone addiction levels of the participants. The loneliness scale developed by Russell, Peplau, and Cutrona (1980) measured loneliness levels. According to the results of the study, there were no statistically significant differences between addiction behaviour toward smartphones and the loneliness of students according to males and females. On the other hand, there was a substantial difference between additional behaviour towards smartphones and loneliness according to the students' departments. Looking at the relationship between loneliness and smartphone addiction levels, it was concluded that there was a statistically significant positive correlation between all sub-dimensions of smartphone addiction and smartphone addiction total score.

Keywords: Addiction behaviour towards smartphones, loneliness, and male and female

Introduction

Smartphone addiction is an attachment or addiction behavior towards smartphones that can cause social problems such as withdrawal, difficulties in daily activities, or the occurrence of impulse control disorders in individuals, (Kwon, et al. 2013). Smartphone addiction is an excessive use of cellphone behavior that can be considered an impulsive control disorder that is not intoxicating and similar to pathological gambling, according to Park and Lee (Bian & Leung, 2014). People will play on cell phones when they feel lonely because they don't have friends in the real world, so they vent their loneliness to make friends in cyberspace. Lonely people tend to play cellphones regularly because they think they are isolated and feel that when they play cellphones, they will feel happy because they can forget their loneliness for a moment.

There are many different definitions regarding the concept of loneliness in the literature. Weiss (1973) has addressed loneliness in two ways: social and emotional loneliness. Social loneliness arises from the inability of the individual to feel a part of his/her society and to be a member of a group where common interests and activities are shared (Duy, 2003). Emotional loneliness is caused by the lack of close attachment to another person, and the feeling of anxiety and emptiness (Emineoğlu, 2018).

In other words, Fromm (Reichmann, 1959) described loneliness as a state of intense abstraction experienced by only the artists and patients with some mental problems. Perlman and Peplau (1981) stated the important names in loneliness studies, indicating that loneliness was a serious deterioration in interpersonal relations, either qualitatively or quantitatively, and also an unpleasant and disturbing life.

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Nowadays, the rapid progress of technology has caused people to feel lonely by removing them from society and, later on, creating various addictions. In addition, family structure, the attitude of the family members, environmental factors, personality structure, and negative conditions can cause individuals to be addicted. [Kwon, Kim, Cho, and Yang \(2013\)](#) stated that addiction is an obsessive activity that causes a disorder in the daily activities of the individual and shows a picture similar to drug addiction.

From the addiction types, smartphone addiction, which we will discuss, is an excessive telephone use situation that reduces the enjoyment of daily activities, which can be uncomfortable in cases of inaccessibility ([Sata, Celik, Ertürk, & TaS, 2016](#)). Overuse of smartphones, which are used as an effective method to deal with loneliness and provide emotional support, leads to addiction ([Sar., 2013](#)). Some symptoms result from excessive telephone use. [Casey \(2012\)](#) listed these symptoms as ignoring the harmful consequences, the mind being overwhelmed continuously with the phone, the extreme desire for the addicted object, the loss of the individual's productivity, and the feeling of anxiety. Experiencing these situations means that the individual is addicted.

In the literature, there are many findings on whether loneliness causes smartphone addiction or smartphone addiction causes loneliness. However, individuals who are self-isolated from society, have psychological problems, lose their self-confidence, feel alone, and are in many negative situations may be more likely to be addicted. Therefore, this study aims to investigate the relationship between loneliness levels and smartphone addiction among university students.

Smartphone Addiction

Smartphones have become an important part of individuals' lives with their numerous features and all the applications they offer to users. Especially young people use this technology to increase their social mobility and expand their communication network. However, this situation brings addiction and many negative emotions. Researches reveal that 99.2% of users become anxious if they leave their phones ([Thomson, 2021](#)), while 75.4 of users are addicted to their smartphones ([Abbott, 2020](#)). As the use of smartphones increases, the number of people who are addicted is increasing and society is starting to experience problems ([Hong et al., 2012](#)).

Strong addiction to smartphones is a distinct and complex problem that researchers are working on explicitly and implicitly. Today, as smartphones become more advanced with all their functions, young people use their smartphones not only for access and communication but also for other functions such as entertainment and multimedia. Thus, they become more and more dependent on their smartphones, which can sometimes be a decision-maker and sometimes a guide for them.

Loneliness

People need social behaviors such as communication, cooperation, and interaction. However, they can also enter a process where these social behaviors are disrupted, this is called loneliness. Loneliness is defined as the perception of deterioration in terms of quantity and quality in the relationship of the individual with other individuals or society ([Peplau et al., 1979](#)). Loneliness deteriorates interpersonal relationships, and when there is an inconsistency between

actual and perceived expectations, a complex, unpleasant, and emotionally distressing psychological experience emerges (Fitts et al., 2009). Being a university student is an important stage when physical separation from family and friends begins and loneliness becomes evident. Lonely people prefer being alone to social activities and spending more time on the internet, so loneliness and internet addiction seem to be significantly related. According to Engelberg and Sjoberg (2004), people who use the internet more frequently have weaker social skills. A similar situation is thought to be possible for smartphone addiction.

The Relationship of Smartphone Addiction and Loneliness

In India, Dr. Mrunal Bhardwaj and Miss. Sode Jaimala Ashok (2015) examined mobile phone addiction and loneliness among teenagers. Random sampling method was used by researchers to select the sample which were 100 teenagers from different colleges in Mumbai city, Maharashtra. Out of the sample, there were 50 male students and 50 female students. A survey model was used to administer the subjects. The survey is designed to evaluate the mobile phone addiction scale (Mobile Phone Addiction Scale (2012)), loneliness (Loneliness Inventory (2010)), and personal information form. Correlation and T-test were calculated to analyze the data. Results revealed that there was a significant correlation between mobile phone addiction and loneliness among college students. Besides, there was no significant difference found in the study when loneliness and mobile phone addiction among college students were examined according to gender.

In Japan, Satoko Ezoel and Masahiro Toda (2013) conducted a study investigating the factors contributing to Internet addiction. The sample involved 105 Japanese medical students (40 males, 65 females) who are from the Faculty of Medicine at Shimane University, Japan. Ages of 19.3 ± 2.0 were the mean ($\pm$ SD) ages for the males and 18.7 ± 1.0 years for the females. The self-reporting questionnaire is used to administer the subjects. The questionnaire is designed to evaluate demographic factors, Internet addiction (Young's Internet Addiction Test), loneliness (UCLA-Loneliness Scale -Version 3), mobile phone dependence (Mobile Phone Dependence Questionnaire), depressive state (Beck Depression Inventory-II), health-related lifestyle factors (Health Practice Index), and patterns of behavior (Tokai University Type-A Pattern Scale). The possible associations between Internet addiction and each factor such as demographic characteristics, loneliness, depressive state, health-related lifestyle, patterns of behavior, and mobile phone dependence were identified by using Univariate and subsequent multivariate logistic regression analyses. According to the study, there was a significant positive correlation between Internet addiction and mobile phone dependence. Besides that, there was a significant positive correlation between loneliness and Internet addiction. As a result, the research showed that mobile phone dependence and loneliness were positively associated with a level of addiction (Ezoel & Toda, 2013). The outcome of this study shows that Internet addiction is associated with mobile phone dependence and loneliness among Japanese students. However, their multivariate logistic regression analysis results showed that depressive state was not significantly related to Internet addiction (Ezoel & Toda, 2013).

On the other hand, in Turkey, previous research named "Loneliness and Mobile Addiction", authored by Cetin Tan, Mustafa Pamuk, and Aysenur Donder (2013), aimed to

examine the level of loneliness according to gender, daily phone use time, and mobile phone addiction among university students. Data were gathered from 527 students who were from Firat University, Turkey. All of the participants had mobile phones (100%). A survey model is used in this research. The survey is designed to gather data, such as personal information form, UCLA-loneliness scale (UCLA-LS), and Problematic Mobile Phone Use Scale (PMPUS). Correlation, one-way variance (ANOVA), and T-test were used to analyze the data, and Scheffe's test was used to find out the differences among groups. Results revealed that when the loneliness of university students was examined according to gender, the loneliness scores of male students were found higher than the scores of female students. According to the added findings of this study, there was a significant difference between university students' loneliness and mobile phone usage. There was a significant difference between mobile phone addiction and university students' loneliness (Tan, Pamuk, & Donder, 2013). The students' loneliness scores were found to be higher than those students of non-addicts, compared to the students who have been addicted to mobile phones each question normally; or choosing different answers to two questions containing similar meanings, or the respondents are over 30 years old (Bian & Louis, 2014). Therefore, 414 university students were the total valid sample size. In the total valid sample, there were consisting of 159 males (38.4%) and 255 females (61.6%) (Bian & Louis, 2014). To measure smartphone addiction in this research, a 27-item Mobile Phone Problem Use Scale, 20-item Internet Addiction Test, and 35-item Television Addiction Scale were applied to the questionnaire. A short form of Revised UCLA-Loneliness Scale-Version 3 was used to assess loneliness. A linear regression analysis was used to assess how smartphone use is influenced by demographics, psychological attributes (such as shyness and loneliness), and symptoms of smartphone addiction. Results revealed that those university students who scored high on loneliness and shyness will have a higher likelihood in addicted to smartphones.

Objectives

This research aims to explore the relationship between addiction behavior towards smartphones and the loneliness of students from East Yangon University.

Hypotheses

H1: There will be a positive relationship between addiction behavior towards smartphones and Loneliness.

H2: There will be a correlation between the use of duration (year) and loneliness.

H3: There will be differences in addiction behavior towards smartphones between males and females.

H4: There will be differences in loneliness between males and females.

H5: There will be differences in smartphone among education level.

H6: There will be differences in loneliness among education level.

Methodology

Participants

The study group consists of a total of 216 participants for this research. A total of 102 males (47.2%) and 114 females (52.8%) from East Yangon University students were selected as the respondents of the study.

Instruments

Smartphone Addiction Scale – Short Version (SAS-SV)

The smartphone addiction scale is a 10-item scale that measures smartphone addiction. Kwon, Lee, Won, Park, Min, and Hahn developed this scale in 2013. This scale is a 6-point Likert scale ranging from 0-6. Each item of the test consists of responses from “strongly disagree” to “strongly agree”. The maximum score is 60 points. The test reveals that the higher the score higher the person’s addiction.

UCLA-3 Loneliness Scale (Version 3)

UCLA-3 Loneliness Scale is a 20-item measure that measures the loneliness of an individual. Russell, D, Peplau, and Fergusson M.L. 1978 developed this scale. This scale is a 4-point Likert scale ranging from 0-4. This scale has a reverse scoring for some of the items. Each item of the test consists of responses from “I often feel this way” to “I never feel this way”. The maximum scores are 80 points. The test reveals higher the score the higher the person’s loneliness.

Procedure

The subjects were given questionnaires to complete to collect their responses. The participants received guarantees that their answers would be kept confidential and used exclusively for study. They were instructed to adhere to the questionnaire’s instructions as needed. It took about 20 minutes.

Data Analyses

Data collected is analyzed using the Statistical Package of Social Science (SPSS). Participants’ item scores and total scores from SAS-IV and UCLA-3 will be shown in mean, standard deviation, and frequency for descriptive statistics. As for inferential statistics, independent sample t-test, one-way analysis of variance (ANOVA), and Pearson correlation were used to obtain statistical results among different variables.

Results and Discussion

Results

Table 1. Demographic profile of Respondents (N=216)

Description	Frequency	Percent
Gender		
Male	102	47.2
Female	114	52.8
Education		
First Year	10	4.6
Second Year	86	39.8
Third Year	75	34.7
Fourth Year	45	20.8
Use of Duration (Year)		
0 – 2 Year	80	37.0
3 – 5 Year	112	51.9
6 - above	24	11.1

In Table 1, there were three kinds of demographic data such as gender, education, and Use of Duration (Year). The participants include males (102) (47.2%) and females (114) (52.8%). The response was education, First years (10) (4.6%), Second years (86)(39.8%), Third years(75) (14.4%), and Fourth years(45) (20.8%). Most of the respondents use duration (Year) 0-2 years (80) (37.0), 3-5 years (112) (51.9%), and 6- above (24) (11.1).

Table 2. Showing the correlation between addiction behavior towards smartphones and loneliness

Variables	Pearson(r)	sig
Addiction behavior toward smartphones and Loneliness	.353	.0001

*=P<0.05 ** = P<0.01

Table 2, shows a correlation analysis between Addiction behavior towards smartphones and loneliness. The correlation is significant at the 0.0001 level. Since the coefficient .353 is a positive value, it can be concluded that there is a direct correlation between addiction behavior toward smartphones on loneliness.

Table 3. Showing the correlation between Use of duration (Year) and loneliness

Variables	Pearson(r)	sig
Use of Duration (Year) and Loneliness	-.046	.501

*=P<0.05 ** = P<0.01

According to Table 3, correlation between the use of duration (Year) and loneliness. The correlation is not significant.

Table 4. Showing the differences in addiction behavior towards smartphones and loneliness between male and female

Variables	Male (N=102)	Female(N=114)	t-value	sig
	Mean (SD)	Mean(SD)		
Addiction behavior toward smartphone	24.38(9.8860)	26.15(9.563)	1.334	.184(NS)
Loneliness	36.36(8.989)	24.88(9.991)	1.166	.245(NS)

*=P<0.05 ** = P<0.01

As shown in Table 4, male participants were 102 and female were 114 respondents. The mean scores (Standard deviation) of addiction behavior towards smartphones for gender were male (24.38) (9.8860) and female (26.15) (9.563) respectively. The mean scores of loneliness for gender were male (36.36) (8.989) and female (24.88) (9.991) respectively. The t-value of addiction to smartphones is 1.334 and the t-value of loneliness is .245, that is, there were no significant differences between male and female participants between addiction towards smartphones and loneliness.

Table 5. Differences in addiction behavior toward smartphones among education-level

Variables	Education	N	Mean	SD	f-value	sig
Addiction Behaviour towards Smartphones	First Year	10	27.00	5.715	.155	.927(NS)
	Second Year	86	25.43	9.326		
	Third Year	75	24.88	9.981		
	Fourth Year	45	25.44	10.943		

In table 5, variables were not significantly differences in addiction towards smartphone among education level. The analysis is compared the mean differences of addiction towards smartphone among education level based on one – way ANOV. The mean scores and standard deviations for each group are report in table 5. The f-value was .155 and there were not significantly differences among education level, which is not significant at the .927 level.

Table 6. Differences in Loneliness among education level

Variables	Education	N	Mean	SD	f-value	sig
Loneliness	First Year	10	27.90	9.723	.693	.557(NS)
	Second Year	86	24.21	9.250		
	Third Year	75	24.24	9.194		
	Fourth Year	45	23.11	10.656		

The analysis is compared the mean differences of loneliness among education level based on one – way ANOVA. The mean scores and standard deviations for each group are report in table 6. The f-value was .692 and there were not significantly differences among education level, which is not significant at the .557 level.

Discussion

This study aims to examine the relationship between addiction to smartphones and loneliness at East Yangon University. The participants were divided into gender, education level, and use of duration (Year).

Hypothesis 1 “There will be a positive relationship between addiction behavior towards smartphones and Loneliness”. It is accepted because addiction toward smartphones and loneliness were significantly correlated based on Table 2. The more the smartphone is used, the higher the loneliness.

Hypothesis 2 “There will be a correlation between the use of duration (year) and loneliness” was not supported but there will be a negative correlation between the use of duration (year) and loneliness.

Hypothesis 3 “There will be differences in addiction behavior towards smartphones between males and females” was not confirmed because there were no significant differences between males and females.

Hypothesis 4: “There will be differences in loneliness between males and females”. It was not confirmed in this study based on Table 4.

Hypothesis 5: “There will be differences in smartphone among education levels” was not accepted because addiction towards smartphone and education factors were not significantly differences among education level.

Hypothesis 6: “There will be differences in loneliness among education levels” was not confirmed because there was no significant among education level. According to the result, the a positive relationship between addiction to smartphones and loneliness. The higher the level of smartphone addiction, the higher the tendency to be lonely; or the lower or lower the level of smartphone addiction, the lower the tendency to be lonely. These findings are consistent with previous research.

The results of this research show that there is a significant positive correlation between addiction to smartphones and loneliness among students from East Yangon University. The findings were consistent with the previous study in which Casey (2012) stated that smartphone addiction may cause someone to feel lonely. This is because loneliness is an undesirable feeling that derives from inconsistency between wished and accomplished levels of social connection (Perlman & Peplau, 1981). Smartphone addiction might influence the way people communicate and cause social stress (Perlman & Peplau, 1981). Furthermore, through smartphones, people can easily communicate with others by individual to individual and concurrently sending short message service (SMS) or using smartphone communication tools rather than face-to-face communication (Casey, 2012). Smartphone addiction may influence an individual to have loneliness.

Conclusion

This study aimed to find out the relationship between addiction to smartphones and loneliness. Our study has found that there is no gender difference in both smartphone addiction and loneliness among East Yangon University students. There is a correlation in the relationship between smartphone addiction and loneliness.

The previous studies provide support and evidence to the aspect of smartphone addiction which aids the researchers in predicting and correlating the loneliness level of students from East Yangon University. The ability to recognize the consequences of being addicted to smartphones would increase the loneliness level. Communication skills and the communication network are of great importance in realizing these situations and this can be achieved mostly by smartphones. Communication can be provided mostly by smartphones. For this reason, depending on the use of the smartphone, there can be physical pain in fingers and eyes, disruption of daily work, feeling unrest when not being with the phone because of the continuous use, and communication is often done through smartphones and this situation may be able to prevent face to face communication. The reason for the lack of a significant difference between 'Relieving oneself ' and loneliness level is that individuals should be more likely to use smartphones due to work, not to use too much in times other than work, and not to feel lonely because they are always in contact with people. According to the results of the analysis of the effect of loneliness levels of students on smartphone addiction, it was concluded that loneliness predicted smartphone addiction. The result was that loneliness caused smartphone addiction. So, loneliness affects addiction. According to the results of the analysis of the effect of loneliness levels of students on smartphone addiction, it was concluded that loneliness predicted smartphone addiction. In other words, smartphones that are used for various purposes may increase the use of smartphones as it allows individuals not to think about difficult conditions by sparing the majority of their time for smartphone usage.

The result was that loneliness caused smartphone addiction. So, loneliness affects addiction. Ultimately, as the loneliness levels of the students studying at East Yangon University increased, the levels of smartphone addiction increased.

Limitations

The current study has some limitations, the most important of which are:

1. Because of the correlational design of the study, there was no possibility of controlling the confounding variables, and these variables might be effective on how students respond.
2. Since the study has been carried out on a limited sample of students and only in a specific city, hence, the results should be generalized with caution.

Further Research

This study has revealed several possible areas for future research, particularly in the methodology used to undertake a study of this nature. It is suggested for future research to employ a causal interpretation design in place of the current correlational design. Addiction behavior towards smartphones and loneliness can be investigated based on different variables. Comparative studies can be carried out to evaluate the relationship between addiction behavior toward smartphones and the loneliness of students studying at different faculties of universities.

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