

Smartphone Addiction Affecting Study Habit of Chittagong University Students

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Abstract

The aim of the research was to determine the effects of smartphone addiction on study habits of university students. Data were collected from 200 students (100 males and 100 females) selected purposively from Chittagong University, Bangladesh. To collect data, Personal Information Form (PIF), *Smartphone Addiction Scale–Short Version (SAS-SV)* translated by Hossain and Kawser¹ and *Study Habit Questionnaire* adapted by Ahmed, Hossain, and Rashid² were administered on 200 undergraduates of Chittagong University. To analyze the data, *t*-test and regression analyses was used. Results revealed that higher smartphone usages led to lower study habits. There were statistically significant gender differences in smartphone addiction and study habits of students. In addition, statistically significant differences between residential and non-residential students were observed in case of smartphone addiction, but no significant differences were evident for study habits. A multiple regression analysis confirmed that smartphone addiction was a significant predictor that could explain 6.3% variations in study habits of university students.

Keywords: smartphone addiction, study habit. Gender differences, university students

Introduction

The growing frequency and amount of time allocation to smartphone use are directly related to the severity of its addiction^{3,4}. For the various functions of the smartphone, university students are becoming more and more dependent on or addicted to it. A Smartphone addicted student uses it at inappropriate places such as classrooms, seminar library, and laboratory in the university territory. They always carry their phone with them and use it while doing other primary activities such as studying, attending lectures and so on.

Study habits, on the other hand, usually refer to the frequent actions for preparing lessons from the starting to the end of an educational program. It is a multidimensional activity which includes different strategies and behavior patterns planned by a student to set an approach for learning. According to Azikiwe⁵ study habit is the way and manner by which a learner plans his or her personal study outside the lecture hours in order to do well in a particular subject or topic.

Workable and successful study habits require proper acquisition and intellectual use of information in lieu of only memorization.

Many research has been conducted to identify the effects of cell phone use on the study habits of individuals. Kahari⁶ found that cell phone use has both positive and negative consequences on study habits. This finding revealed that cell phones were helpful for learning but students had an impulse to misuse them. Elder⁷ conducted a study on 88 undergraduate college students and confirmed that cell phone user group anticipated that they will get lower scores than the group those who did not use cell phone during the lecture.

Lee et al.⁸ conducted a research study on university students to explore the relationship between smartphone addiction and study habits. They found that smartphone addiction had statistically significant negative correlation with study habits. The study also

demonstrated that the higher the addiction level the lower is the level of attention the students had while doing their study.

Alfawareh and Jusoh⁹ tried to examine the trends of smartphone usage for two different purposes in 324 students at Najran University: casual usage and usage for learning. They found that desktop, laptop and other devices have been replaced by smartphone but the students are not appropriately utilizing their smartphones for learning purposes. As there are lots of apps in the smartphone, it has been found that the students who are addicted to smartphone become continuously disturbed by the different applications of the phone while studying, and they do not have adequate control over their smartphone learning plan and its process⁸.

Gupta, Grag, and Arora¹⁰ investigated on 1000 students at a medical university about the pattern of smartphone usage and its relation to psychological wellbeing, sleep, and academic performance. All the students had their own phone and among them, 76.4% students had smartphones. Researchers showed that usage of their phone during the nighttime was significantly correlated with difficulties in waking up, waking time tiredness, decreasing study habits, poor concentration, missing classes and late presence in the classes. Although they found the benefits of mobile phones in daily life but its overuse had a negative effect on psychological wellbeing, sleep and academic performance of students. Zulkefly and Baharudin¹¹ examined the association among mobile phone usage, paternal, and family factors. Their finding demonstrated that duration of mobile phone usage and monthly expenditure was highly associated with family income. This finding also indicated that students who came from higher income family allocated more time and spent more money on their mobile phone usage.

There are various research studies that demonstrated significant gender differences in different aspects of mobile phone usage⁶. But the evidence is not conclusive, for example, while a study on smartphone

addiction showed that males spent comparatively less time on their cell phones than females did¹², Devis et al.¹³ showed that boys allocated more time on using smartphones as compared to girls.

Pawlowska and Potemnska¹⁴ conducted survey research on Polish gymnasium, secondary school, and university to investigate the severity of symptoms of cell phone addiction in students. Results showed that female participants extensively use cell phones to fulfill their needs for acceptance and closeness, to make and keep continue their social relationships, and to show their emotions than their male counterparts. Men markedly use cell phone to enjoy music, take photographs, create videos, play games, and use internet more frequently as compared to women. Another study revealed gender disparity in social networking using smartphone and showed that women frequently used camera on smartphone than men did, while they would make fewer phone calls and use other applications as compared to men¹⁵.

Rationale

At present smartphone has become one of the crucial mechanical devices that make human lives and their daily function very easy. Its popularity and usage in young people have been increased in recent years. According to Bangladesh Telecommunication Regulatory Commission¹⁶ the number of mobile phone users has been increasing by 176.94 million at the end of July 2021. The growing demands of smartphone usage is due to its various applications such as information, communication, education, and entertainment etc. smartphone users are usually spending time and money on browsing social networking site and other webs, checking e-mail, playing games, listening to music, sending text messages and so on. But excessive use of these activities negatively affecting them psychophysically leading to be addicted to smartphone usage. Smartphone addiction is more acute and harmful than other mechanical devices e.g., cell phones, tablets, and computers. People become unaware while using

smartphone that affect their work-related activities, classroom learning^{17,18}, and academic engagement¹⁹. The students who become involved with surfing web, social networking, texting messages and checking emails during the class lecture give less attention to their lessons^{17,18}. It was not a serious problem before, but recently it has become an addictive behavior among students and adversely affecting academic activities.

Now-a-days, it is evident that university students' academic attainments are highly influenced by their study habits, and while study habits are interrupted due to the misuse or addiction of smartphones. Little research has been done on the relationship between smartphone addiction and study habits of university students in Bangladesh. Therefore, the present study was intended to study the effects of smartphone addiction on study habits of university students.

Objectives

1. To determine the effects of smartphone addiction on study habits of university students.
2. To investigate the gender and residential status differences on smartphone addiction and study habits of participants.

Materials and Methods

Participants

In order to collect data, participants were selected purposively; a total of 200 university students were selected as a sample for this study. Data of 30 participants among these 200 were excluded because they were out of range in box plots. Then the total valid sample was 170, among which 84 students were male and 86 were female. 77 students of the 170 were recruited from the residential halls and 93 were the non-residential students of Chittagong University.

Measures

In the present study the following instruments were used:

- a. *Smartphone Addiction Scale–Short Version (SAS-SV)*¹

- b. *Study Habits Questionnaire*²

- c. Personal Information Form

Smartphone Addiction Scale–Short Version (SAS-SV)

The Bangla version¹ of the Smartphone Addiction Scale - Short Version (SAS-SV)²⁰ is used to measure the level of smartphone addiction of students. The 10-item Smartphone Addiction Scale - Short Version (SAS-SV) consists of ten questions on daily-life disturbance, withdrawal, cyberspace-oriented relationships, overuse, and tolerance. It is scored using 6-point Likert type scale: strongly disagree = 1, disagree = 2, somewhat disagree = 3, somewhat agree = 4, agree = 5, and strongly agree = 6. On SAS-SV, a score of 10 is the lowest possible and a score of 60 is the highest. The higher scores on the scale indicate a higher level of problematic smartphone use. Excessive smartphone users can be identified by a cutoff score of 33 for females and 31 for males²⁰. SAS-SV showed sufficient reliability (Cronbach's alpha= .96) and validity²⁰.

In the present study, the correlation coefficients of corrected item total correlations ranged from 0.33 to 0.87 and the reliability (Cronbach's alpha) was found 0.869.

Study Habit Questionnaire

The Bangla version² of the Study Habit Questionnaire (SHQ)²¹ was used to collect data about study habit of university students. The SHQ contained 12 items with a four-points Likert-type scale. Response options were strongly agree (4), agree (3), disagree (2) and strongly disagree (1). Higher score in *SHQ* indicated good study habit of respondents. The Cronbach's Alpha reliability coefficient of *SHQ* in original English scale was 0.81²¹. The Bangla version showed sufficient reliability (Cronbach's alpha= .82) and validity². In the present study, the correlation coefficients of corrected item total correlation ranged was from 0.09 to 0.47 and the Cronbach's Alpha reliability coefficient was 0.739.

Personal Information Form

Respondents were required to answer several questions that aims to obtain their personal information, such as age, sex, gender, residential status.

Design:

A cross sectional survey research design was followed for conducting the present study.

Procedure

The final translated versions of the *Smartphone Addiction Scale* and *Study Habits Questionnaire* along with PIF were administered on 200 students. Participants were approached individually to get information from them. Respondents were told that the sole purpose of the investigation is academic and responses given by them would be kept confidential. Before administration of the questionnaires, necessary rapport was established with the respondents. Then the PIF, *Smartphone Addiction Scale*¹ and *Study Habit Questionnaire*² were administered on respondents and requested a silent reading of the instructions provided with the scales before starting responses. They were also requested not to omit any item in the scale and encouraged to answer all the items by saying that there is no right or wrong answer to any item. All possible clarifications were made to the problems if faced by the respondents. There was no time limit for the respondents to answer all the items of the scales. After completing their tasks, the questionnaires were collected and they were given thanks for their sincere co-operation.

Results

A Shapiro-Wilk's test ($p > .05$), Kolmogorov-Smirnov's test ($p > .05$) and a visual inspection of their normal Q-Q plots showed that the Smartphone addiction and study habit scores were approximately normally distributed for both male and female. Breussch-Pagan and Koenker's test ($p > .05$) and Levene's test of equality error variance ($p > .05$) showed that heteroskedasticity was not present, that is, sample variance was same as population variance. Variables (Smartphone addiction and study habit) were measured in interval scale. So, these sample characteristics fulfilled the assumptions of parametric test.

In order to analyze the data, independent samples *t*-test and hierarchical multiple regression analyses were conducted using SPSS version 23.

Finding as shown in Table 1 indicates that the mean Smartphone addiction score of male students is 42.98 and *SD* is 8.28 and mean score of female students is 37.09 and *SD* is 12.03. That means, smart phone addiction is higher among male students as compare to female students. The *t*-test indicates that there is a significant difference between Smartphone addiction score of male and female, but the difference is found medium. On the other hand, the mean study habit score of male students is 23.09 and *SD* is 5.01 and the mean score of female students is 25.17 and *SD* is 5.43. The *t*-test indicates that there is a significant difference between study habit score of male and female but their difference was very small between them.

Table 1. Gender differences in smartphone addiction and study habits of the university students

Variables	Sex	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>
Smart phone addiction	Male	84	42.98	8.28	168	3.72**
	Female	86	37.09	12.03		
Study habit	Male	84	23.09	5.01	168	2.59*
	Female	86	25.17	5.42		

** $p < .01$, * $p < .05$,

Table 2. Residential status differences in smartphone addiction and study habits of the university students

Variables	Sex	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t</i>
Smart phone addiction	Residential	77	42.50	9.66	168	2.83**
	Non Residential	93	37.92	11.17		
Study habit	Residential	77	24.15	5.09	168	0.02
	Non Residential	93	24.13	5.51		

** $p < .01$

Finding as shown in table – 2 shows that the mean Smartphone addiction score and *SD* of residential students are 42.50 and 9.66 and for non-residential students are 37.92 and 11.17. That means, Smartphone addiction is higher among residential students compare to non-residential students. The *t*-test indicates that there is a significant difference between Smartphone addiction score of residential and non-residential students, and the difference is large between them. On the other hand, the mean study habits score of residential students is 24.15 and *SD* is 5.09 and for the non-residential students mean score is 24.13 and *SD* is 5.51. The *t*-test indicated that there is no significant difference between study habit score of residential and non-residential students and the difference were very small.

Table 3 represents the results of the regression analysis. Age, gender and residential status of the participant were entered in step-1 that explained 3.9% variations

Table 3. Summary of hierarchical multiple regression analysis of study habits predicted by smart phone addiction, age, gender and residential status of the university students

	<i>B</i>	<i>Std. Error</i>	β	<i>t</i>	ΔR^2
Step – 1					.039
Age	.050	.224	.017	.224	
Gender	-2.105	.814	-.199	-2.58*	
Residential status	.011	.810	.001	.013	
Step – 2					.063
Age	-.06	.22	-.02	-.27	
Gender	-1.54	.85	-.14	-1.82	
Residential status	.40	.82	.03	.49	
Smart phone addiction	-.08	.04	-.17	-2.07*	

* $p < .05$, *B* = unstandardized regression coefficient, *Std. Error* = unstandardized standard error, β = standardized regression coefficient, *t* = *t*-test value, ΔR^2 = change in coefficient of determination between steps.

($\Delta R^2 = .039$, $F_{3,166} = 2.234$, $p < .05$) of study habits of the participants. These measures show their distinct contribution on the dependent measure.

In step-2, smartphone addiction, additionally explained 2.4% of the variations of the dependent variable. In this final step, smartphone addiction significantly contributed to the study habits ($\beta = -.172$, $p < .05$) showing that higher addiction to smartphones in students resulted in lower study habits. The whole model explained 6.3% variations in study habits of the participants ($F_{4,165} = 2.789$, $p < .05$).

Discussion

The purpose of the present study was to investigate the effects of smartphone addiction on the study habits of university students. Previous literatures helped to specify the objectives of the present research. Its specific objectives were to determine the effects of smartphone addiction on study habits of university

students and to investigate the gender and residential status differences on smartphone addiction and study habits. And to do this, 170 participants were taken purposively as sample. Then *Smartphone Addiction Scale*¹ and *Study Habit Questionnaire*² along with personal information form (PIF) were administered on them.

Results (table 1) revealed that there were significant differences between male and female both on smartphone addiction and study habit. Male students obtained higher score on smartphone addiction than female which were consistent with previous research findings¹⁴. It indicated that male participants addicted more than female. In our society female students have to follow some restricted rules but male students have not followed any restricted rules that's why they may more use smartphone more than female students. Results (table 2) also revealed that there was a significant difference between residential and non-residential students on smartphone addiction. Residential students were more addicted than non-residential students. Residential students stay detached from family and they have to adjust with new environment which may cause to use smartphone more than non-residential students. However, there was not found a significant difference on study habit according to types of residence.

Table 3 showed that smartphone addiction and gender were the significant predictors of study habits. Smartphone addiction distinctly contributed 2.4 % variations of study habits, while the analysis demonstrated that the whole model predicted 6.3% variations of study habits. The regression analysis of the present study reflected the finding of previous study^{8,10}. As longer time is spent on the smartphone by the students, reading extent and involvement in group activities concerning academic assignments are reduced. The relationship between the uses of smartphone and study habit is important for good academic performance. This study identified that the regular study habit of the students was hampered by the

extensive use of smartphone. Sometimes, the use of smartphone is uncontrollable to the students. The addictive behavior of smartphone usage also hampers students' concentration to their studies which also reduced their study habit. This means that when the level of smartphone addiction was higher, the level of study habit was lower.

The present research has few specific limitations. First of all, it is conducted on a small sample (n = 200). Secondly, it has controlled few demographic characteristics such as age, sex and type of residence of participants. So, it would better if the study had been conducted on a large sample and controlled other important variables such as socioeconomic status, faculty, and year of study and so on. Future researches will be required to investigate smartphone addiction at other populations such as different age group school students.

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