

Facebook Use and its Relationship with Physical and Mental Health among University Students in Bangladesh

Md. Masudur Rahman^a and Muhammad Zakaria^{b*}

^{a,b}University of Chittagong, Bangladesh

ABSTRACT

Facebook addiction causes different health-related problems like insomnia, loneliness, frustration, headache, wrist pain, eye pain, blurred eyes, and laziness. This study aims to assess the effects of Facebook use on the students' physical and mental health at the University of Chittagong, Bangladesh. An institution-based cross-sectional study was conducted among the students (N = 385) of 21 departments from seven faculties of the university. Data were collected using a structured and self-administered questionnaire. Descriptive statistics and chi-square (χ^2) analyses were performed. This study revealed that more than half of the students (54.8%) use Facebook on average for more than two hours daily. Other findings include: 49.9% of students became angry when interrupted in using Facebook, 55.1% had a headache problem, 62.1% of them have an eye pain problem, 50.0% of respondents suffered from blurred eyes, 50.1% users had insomnia problems, and they could not wake up early in the morning. Most of them reported that sometimes mealtime passed while using Facebook, and they became excited when they see something unexpected content on Facebook. Moreover, the respondents who used Facebook for more than two hours were more likely ($p < .05$) to suffer from different physical and mental health problems. In addition, the students whose parents were living in the urban area, parents' higher educational qualifications, and the respondents who read newspapers irregularly had a higher likelihood of using Facebook for more than two hours daily. This study suggests increasing awareness regarding the connection between health effects and social media use among university students.

Article Info

Received October 18, 2021

Revised December 10, 2021

Accepted December 16, 2021

Keywords: Facebook use, Physical health, Mental health, University students, Bangladesh

Introduction

Social media gives users chances to connect with family, friends, society, and country even worldwide. People are now looking for new friends, new technology, new languages, a new culture that makes a significant change in their lifestyle and health. Accordingly, social media addiction is increasing globally. A study with a sample of 36,950 students from 126 US universities finds that 90% of the students were using Social Networking Sites (SNS). Among SNS users, 97%

reported using Facebook daily (Junco, 2011). At present more than 68.5% of young adults and teenagers use Facebook regularly (Kuss & Griffiths, 2011). Addiction to Facebook has effects on users' psychological, mental, and physical health. Different studies suggest that excessive use of Facebook affects students' health (Andreassen et al., 2012; Ellison & Steinfield, 2007; Farooqi et al., 2013; Fernández et al., 2015; Kaur & Bashir, 2015; Khoshakhlagh & Faramarzi, 2012; Koc &

CONTACT

Md. Masudur Rahman is a graduate student, Department of Communication and Journalism, University of Chittagong, Bangladesh.

Muhammad Zakaria (M.P.H., Tsinghua University, China) is Associate Professor, Department of Communication and Journalism, University of Chittagong, Bangladesh.

***Corresponding author's email:** zakaria@cu.ac.bd

Gulaychi, 2013; Kuss & Griffiths, 2011; Masthi & Cadabam, 2015; MPh, 2015; Weiser, 2002).

In line with other parts of the world, Facebook has gained immense popularity in Bangladesh, especially among young adults (Akter & Islam, 2012). Facebook plays a significant role as a social media platform all over the country, and people relate themselves by using it. Data show that Bangladesh has more than 32 million Facebook users currently, and the user ages are between 18-24 years, mostly (BTRC, 2017). The exponential growth of users and the proportion of young users is evidence of its overwhelming popularity among young people.

Addiction to Facebook is also prevalent among Bangladeshi young people. Soron (2015), a psychologist at Bangabandhu Sheikh Mujib Medical University, has reported a case of successful management of Facebook addiction of a 27-year-old young man who was brought to the hospital by his father with the complaints of using Facebook all day long. The high use of social media is a major concern because of its negative impact on health. Excessive use of social media results in the deterioration of physical and mental health as well. It affects their lifestyle, thoughts, beliefs, and norms, making them lonely, low-confident, insomnia patients. Unfortunately, young adults are the most active social media users, and they have a predominantly high risk of getting mental health problems (Manwong, 2015). The proposed study aimed to assess Facebook's effect on university students' physical and mental health and associated factors in Bangladesh.

Review of Related Literature

Many studies around the world examined the desirable and negative impact of social media sites on their users like building social capital, youth safety, and privacy, psychological isolation, and wellbeing, academic performance, depression, and loneliness, etc. Chavez and Chavez (2017) conducted a study to examine the relationship between Facebook addiction and the loneliness of Filipino high school students. The findings reveal that the majority of students were non-addicted to Facebook though several students belong to risk groups and are addicted to social media.

Rohilla and Kumar (2015) found a link between social media usage and unfavorable outcomes in young adults, such as anxiety, despair, loneliness, obsessive behavior, and narcissism. Likewise, conscientiousness, extraversion, neuroticism, and loneliness (social, familial, and romantic) were found to be very significant predictors of Facebook addiction by Biolcati et al. (2018).

According to Strickland (2014), there is an association between growing social media use and mental health in the young adult population. Unfortunately, young adults, who are the most active social media users, are at an increased risk of developing mental health problems, making this link more alarming. Similarly, Goodyear et al. (2018) found that almost half of young people reported their health-related behavior as a direct result of accessing content from social media. Only 43% of young people believe that health-related information on social media has a beneficial influence on their health.

Research by Koc and Gulyagci (2013) looked at Facebook addiction among Turkish college students and the behavioral, demographic, and psychological health determinants. Weekly time commitment, social reasons, severe sadness, anxiety, and sleeplessness were all found to be favorable predictors of Facebook addiction in the study. Demographic factors and gender-by-usage-characteristic interactions were not shown to be significant predictors.

Fernández et al. (2015) performed a study to provide a descriptive analysis of problematic internet usage among college students, as well as analyzing the probable link to health issues and addictive behaviors, as well as gender variations in user types. There are significant associations with some health problems (migraines, back pain, excess weight or obesity, insufficient rest), psychological aspects (risk of eating disorders, risk of mental disorders, depression), family problems, and discrimination; however, there are no significant associations with substance use (alcohol, cannabis, or tobacco).

Kawser (2017) conducted a cross-sectional study among 300 students from a private institution, finding that social media addiction is on the rise, as is the amount of time spent on the Internet daily. The addiction is further exacerbated by more frequent daily visits to social media accounts. The unfavorable influence on academic achievement was agreed upon by half of the participants.

To date, as the above review indicated, no study investigated the effect of Facebook use on physical and mental health among the students of a public university in Bangladesh. This study attempted to fill this gap.

Theoretical Framework

This study was designed with a socio-psychological aspect of media theories. Two important theories of this tradition are the uses and gratification theory and dependency theory. Uses and gratification theory, developed by Katz et al. (1974), is one of the most widely used

theories for understanding the audiences' choices in using media and its content. The theory posits that audiences are 'active and goal-directed' and they 'have considerable agency: they know their needs and how to gratify those needs' (Littlejohn & Foss 2008, p. 301). The audiences have certain purposes (i.e. needs, expectations) while looking for media content. Audiences are more gratified with the commanding loyalty of the audiences. In the simplest form when the audiences are better gratified with the content of a certain medium, they use that medium more.

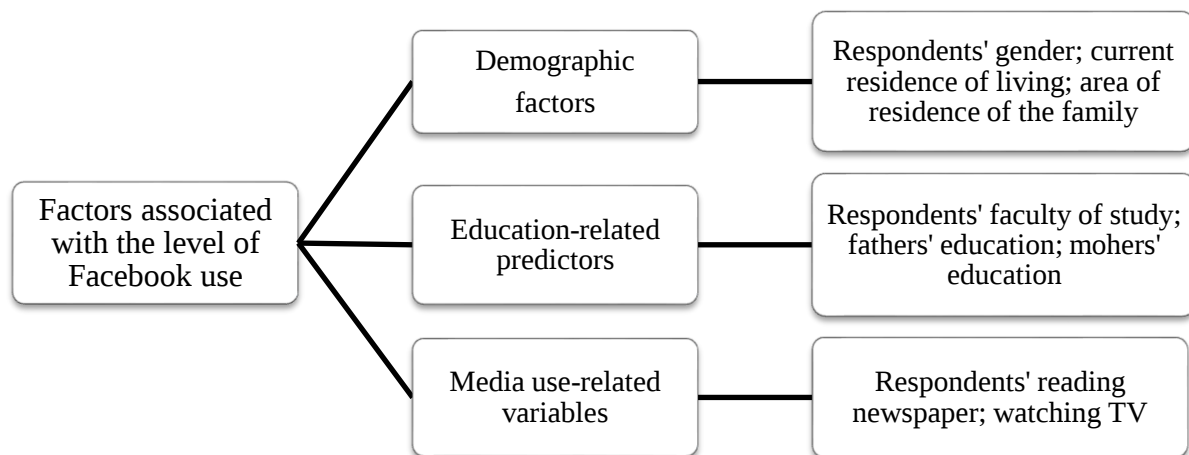
On the other hand, dependency theory, developed by Ball-Rokeach and DeFleur (1976), expands the understanding in solving the dilemma between the limited effect theories like uses and gratification theory and powerful effect theories like magic bullet theory. They propose that the media effect can be both powerful and limited. Whether the effect will be powerful or limited can be determined by 'an integral relationship among the audience, media, and the larger society' (Littlejohn & Foss 2008, p. 302). The audience will become more dependent on that media which fulfill their developments through a complex interaction among the individual's society in which the individual's socialization process is going on. The degree of media effect will correspond to the degree of

individual and/or societal dependence on certain media. These two theories have ample scope in explaining the effect of using Facebook on the health of the students.

A Customized Conceptual Framework

In order to perform our bivariate analysis, we used a customized conceptual framework to understand the predictors of the study participants' level of Facebook use. We hypothesized that the factors associated with the study participants' excessive Facebook use operate at different levels. In our framework, we consider the students' demographic factors, students' and their parents' education, and media use-related variables as the leading potential influencers of the respondents in Facebook use. We, therefore, examined different types of factors to explore these relationships. Demographic factors include the respondents' gender, current residence of living, area of residence of the family. Besides, educational variables include respondents' faculty of study, their fathers' education, and mothers' education. Furthermore, media use-related variables imply reading the newspaper and watching TV (see Figure 1).

Figure 1 Customized Conceptual Framework to Understand the Factors Influencing the Respondents' Level of Facebook Use



Methodology

In an attempt to achieve the desired research outcomes, the present study used a quantitative research approach designed with an institution-based cross-sectional survey.

An institution-based cross-sectional study was conducted from May 14 to June 12, 2019, at the University of Chittagong, one of the largest public universities in Bangladesh. The researchers

conducted a survey among the undergraduate students of this university for their convenience and an inadequate budget. However, the university was established in 1966 and is located in Hathazari Upazila, 22 kilometers north of Chittagong City, the country's commercial capital and second-largest city.

Sampling Method and Sample Size

To select the study participants the number of students for each faculty was obtained from the

registrar's office and the total sample size was allocated proportionally according to the student number in the faculty. Finally, convenience sampling was employed to select students from each faculty. The sample size was determined using single population proportion formula considering the following assumption: $P = 50\%$, significance level 5% ($\alpha = .05$), $Z(\alpha/2) = 1.96$, margin of error 3% ($d = .03$).

$$N = ([Z(\alpha/2)]^2 \times P[1-P])/d^2 \\ = 385$$

Data Collection

Quantitative data were collected by pretested, structured, and facilitator-guided self-administered questionnaires. The questions used in the questionnaire were prepared based on reviewing related literature. A pilot study was conducted to test the understandability and ensure its wholeness and consistency in providing the study's information. Before the distribution of questionnaires, the purpose of the study was explained to the respondents. The questionnaire consisted of three parts, such as demographic, socio-economic, and background characteristics of respondents, the questions related to the objective and pattern of Facebook use, and the items as to Facebook's effect on physical and mental health.

Definitions

Mental health: Although there have been various interpretations of mental health, we are using it to mean different psychological states that include becoming angry, irritable mood, loneliness, insomnia, getting annoyed, and becoming excited.

Physical health: There has been a good deal of variation in the literature in the way in which the term physical health has been used. In this study, we are taking it to indicate several physical conditions, such as headache, wrists pain, eye pain, blurring eye, and laziness.

University students: It means to the students who study at the undergraduate and graduate level in a university.

Young adults: This term denotes the persons between the ages of 15 and 24 years.

Facebook addiction: This term refers to those who use Facebook excessively and compulsively to change their mood, with detrimental personal consequences.

Measurement

Questions validated within Bangladesh context were asked to assess respondents' health

effects of Facebook use; those were determined using 14 questions on health effects with the response of a five-point Likert scale: strongly agree, agree, neutral, disagree, strongly disagree. For the chi-square test, the scale was recoded into three categories: agree, neutral, and disagree.

Data Analysis

The data, which were gathered using a structured questionnaire, were coded and entered into a statistical program. Descriptive statistics using the table of frequency distribution was used to summarize socio-demographic and other characteristics and dependent variables. Afterward, descriptive statistics using cross-tabulation were used to see the overall percentage distribution of the study for the effect of Facebook use on health and their demographic, socio-economic, and other characteristics. Chi-square (χ^2) analysis was also used to examine the relationship between independent and main outcome variables.

Ethical Considerations

The study protocol was reviewed and approved by the Department of Communication and Journalism of the University of Chittagong, Bangladesh. The study was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from all participants in the study. The facilitators maintained confidentiality and anonymity of the collected information. Study participants had the right to withdraw from the study at any stage.

Results

Socio-demographic Characteristics of the Study Participants

Table 1 shows the socio-demographic characteristics of the participants and their parents. A total of 385 graduate students participated in the study. Of them, 182 (47.2%) were attending the Science/Biological Science/Engineering faculty, 110 (28.6%) were from Arts/Social Science faculty, while 93 (24.2%) were the students of Law/Business Administration faculty in the university. Among the students, 194 (50.4%) were male, and 191 (49.6%) were female. Regarding residence, 140 (36.3%) lived in the campus cottage while 139 (36.1%) lived in the city home. Besides, most of the respondents' families, 215 (55.8%) were from rural and suburban areas, and 170 (44.2%) were from urban areas

Table 1 Descriptive Characteristics of Respondents and their Parents

Background Characteristics (N = 385)	<i>f</i>	%
Faculty of the respondents		
Arts/Social Science	110	28.6
Law/Business Administration	93	24.2
Science/Biological Science/Engineering	182	47.2
Gender of the respondents		
Female	191	49.6
Male	194	50.4
Place of residence of the students		
Campus Cottage	140	36.3
Hall	53	13.8
City Mass	53	13.8
City Home	139	36.1
Area of residence of the family		
Rural & Suburban	215	55.8
Urban	170	44.2
Reading newspaper		
Irregular	151	39.2
Sometimes	123	31.9
Regular	111	28.9
TV viewing		
Irregular	219	56.9
Sometimes	87	22.6
Regular	79	20.5
Respondents average Facebook using time		
Up to 2 hours	174	45.2
> 2 hours	211	54.8
Respondents' mother education		
Illiterate	24	6.2
Primary	73	19.0
Secondary	129	33.5
Higher Secondary	65	16.9
Honors/Bachelor/Masters	94	24.4
Respondents' father education		
Illiterate	22	5.7
Primary	36	9.4
Secondary	69	17.9
Higher Secondary	66	17.1
Honors/ Bachelor/Masters	192	49.9

Table 1 also shows that 111 (28.9%) acknowledged reading the newspaper regularly, while only 79 (20.5%) watched TV regularly. Among students, 174 (45.2%) use Facebook on average, up to 2 hours a day, while 211 (54.8%) use more than 2 hours daily. Of respondents' mother, 129 (33.5%) had attained the secondary level of education followed by Honors/Bachelor/Masters (94, 24.4%), primary (73, 19.0%), higher secondary (65, 16.9%) and illiterate (24, 6.2%). Of respondents' fathers, 192 (49.9%) had completed Honors/Bachelor/Masters.

Respondents' Health Effects of Facebook Use

Table 2 depicts that half of the participants, 138 (35.8%) revealed that they became angry when using Facebook was interrupted by any means. In addition, 212 (55.1%) students reported that they suffered from a headache when using Facebook, while 170 (44.1%) reported that they were suffering from wrist pain when using Facebook for a long time. Most of the participants (239, 62.1%) reported that they were having eye pain when using Facebook for a long time, while half of the respondents (50.0%) revealed that they

were suffering from blurred eyes by using Facebook excessively.

Of respondents, 44% reported that their mood became irritable when they used Facebook continuously. More than one-fourth of the respondents said that they could not refrain from using Facebook despite having the speed of the urine, while 31.7% felt loneliness when they used Facebook for a more extended period. Moreover, 50% of respondents believed that they had insomnia as they were connected with Facebook

for a long time at late night, whereas 39% of students reported that they got annoyed with family members if they said something while using Facebook attentively. Furthermore, 187 (48.5%) participants acknowledged that sometimes mealtime was spent using Facebook for a long time. Of respondents, about 61% admitted that Facebook uses created laziness in their life, while 50% were also agreed that they became excited when they see something unexpected on Facebook.

Table 2 Respondents' Health effects of Facebook use

Items	Agree	Neutral	Disagree
Become angry when using Facebook is interrupted	138 (35.8)	54 (14.1)	193 (50.1)
Suffer from headaches when using Facebook	212 (55.1)	45 (11.7)	128 (33.2)
Get wrists pain when use Facebook continuously	170 (44.1)	53 (13.8)	162 (42.1)
Have eye pain when using Facebook for a long time	239 (62.1)	24 (6.2)	122 (31.7)
Suffer from blurred eyes when use Facebook	195 (50.7)	46 (11.9)	144 (37.4)
Mood become irritable when using Facebook for a long time	170 (44.1)	53 (13.8)	162 (42.1)
Cannot refrain from using Facebook despite having the speed of the urine	103 (26.8)	58 (15.1)	224 (58.1)
Feel lonely when using Facebook for a long time	122 (31.7)	51 (13.2)	212 (55.1)
Suffer From insomnia due to Facebook use at night	200 (51.9)	45 (11.7)	140 (36.4)
Cannot wake up early in the morning when using Facebook for a long time at night	208 (54.0)	43 (11.2)	134 (34.8)
Get annoying with family members if they say something when using Facebook	149 (38.7)	40 (10.4)	196 (50.9)
Sometimes meal time is spent while using Facebook	187 (48.5)	31 (8.1)	167 (43.4)
Excessive use of Facebook creates laziness	234 (60.8)	40 (10.4)	111 (28.8)
Become excited when seeing something unexpected on Facebook	193 (50.2)	54 (14.0)	138 (35.8)

Distribution of Health effects of Facebook Use by the Duration of Facebook Use

The percentage distributions of health effects by the duration of Facebook use were presented in Table 3. The study findings demonstrate that seven out of 14 items of health effects had a significantly positive association with the students' Facebook use for more than two hours daily. The items were: becoming angry when their using Facebook is interrupted ($\chi^2 = 1.547$; $p < .001$), continuing Facebook use despite of having the speed of the urine ($\chi^2 = 11.953$; $p = .003$), feeling loneliness ($\chi^2 = 6.068$; $p < .049$), suffering from insomnia ($\chi^2 = 9.844$; $p < .007$),

not to wake up early in the morning ($\chi^2 = 6.059$; $p = .048$), getting annoyed with family members if they say something when use Facebook ($\chi^2 = 9.495$; $p = .009$), passing meal time ($\chi^2 = 12.280$; $p = .002$). In the contrast, this study didn't find any relationship between rest of health effects and students' Facebook use for more than two hours daily. The items were: suffering from headache ($\chi^2 = 1.377$; $p = .502$), having wrist pain ($\chi^2 = 7.599$; $p = .055$), suffering from blurred eyes ($\chi^2 = 5.288$; $p = .071$), mood becoming irritable ($\chi^2 = .965$; $p = .617$), too much use of Facebook creates laziness ($\chi^2 = 3.422$; $p = .181$), and becoming excited when they see something on the Facebook unexpected ($\chi^2 = 3.789$; $p = .150$).

Table 3 Respondents' Health Effects by the Duration of Facebook Use

Variable (N = 385)	Duration of Facebook Use		χ^2	p
	Up to 2 Hours n (%)	More than 2 Hours n (%)		
Become angry when using Facebook is interrupted			1.547	<.001
Disagree	105 (60.3)	88 (41.7)		
Neutral	24 (13.8)	30 (14.2)		
Agree	45 (25.9)	93 (44.1)		
Suffer from headaches when using Facebook			1.377	.502
Disagree	57 (32.6)	71 (33.6)		
Neutral	24 (13.8)	21 (10.0)		
Agree	93 (53.4)	119 (56.4)		
Get wrists pain when using Facebook continuously			5.799	.055
Disagree	63 (36.2)	99 (46.9)		
Neutral	30 (17.2)	23 (10.9)		
Agree	81 (46.6)	89 (42.2)		
Have eye pain when using Facebook			2.295	.317
Disagree	49 (28.2)	73 (34.6)		
Neutral	13 (7.5)	11 (5.2)		
Agree	112 (64.4)	127 (60.2)		
Suffer from blurred eyes when using Facebook			5.288	.071
Disagree	57 (32.8)	87 (41.2)		
Neutral	27 (15.5)	19 (9.0)		
Agree	90 (51.7)	105 (49.8)		
Mood become irritable due to too much use of Facebook			.965	.617
Disagree	70 (40.2)	92 (43.6)		
Neutral	27 (15.5)	26 (12.3)		
Agree	77 (44.3)	93 (44.1)		
Cannot refrain from using Facebook despite having the speed of the urine			11.953	.003
Disagree	103 (59.2)	121 (57.3)		
Neutral	36 (20.7)	22 (10.4)		
Agree	35 (20.1)	68 (32.3)		
Feel lonely when using Facebook			6.028	.049
Disagree	93 (53.4)	119 (56.4)		
Neutral	31 (17.9)	20 (9.5)		
Agree	50 (28.7)	72 (34.1)		
Suffer from insomnia when using Facebook at night			9.844	.007
Disagree	62 (35.6)	78 (37.0)		
Neutral	30 (17.3)	15 (7.1)		
Agree	82 (47.1)	118 (55.9)		
Cannot wake up early in the morning due to Facebook use			6.059	.048
Disagree	58 (33.3)	76 (36.0)		
Neutral	27 (15.6)	16 (7.6)		
Agree	89 (51.1)	119 (56.4)		

Variable (N = 385)	Duration of Facebook Use		χ^2	p
	Up to 2 Hours n (%)	More than 2 Hours n (%)		
Get annoying with family members if they say something when using Facebook			9.495	.009
Disagree	96 (55.2)	100 (47.4)		
Neutral	24 (13.8)	16 (7.6)		
Agree	54 (31.0)	95 (45.0)		
Sometimes mealtime is spent due to Facebook use			12.280	.002
Disagree	83 (47.7)	84 (39.8)		
Neutral	21 (12.1)	10 (4.7)		
Agree	70 (40.2)	117 (55.5)		
Excessive use of Facebook creates laziness			3.422	.181
Disagree	56 (32.2)	55 (26.1)		
Neutral	21 (12.1)	19 (9.0)		
Agree	97 (55.7)	137 (64.9)		
Become excited when seeing something unexpected on Facebook			3.789	.150
Disagree	60 (34.5)	78 (37.0)		
Neutral	31 (17.8)	23 (10.9)		
Agree	83 (47.7)	110 (52.1)		

Note: Columns against the categories of characteristics sum to 100. Chi-square (χ^2) test was performed to find the association.

Distribution of Socio-demographic characteristics by Duration of Facebook Use

According to Table 4, students' living place ($\chi^2 = 4.007$; $p = .050$), area of residence ($\chi^2 = 4.989$; $p = .030$), reading newspaper ($\chi^2 = 8.485$; $p = .014$), fathers' education ($\chi^2 = 9.546$; $p = .008$) and mothers' education ($\chi^2 = 6.044$; $p < .049$)

have a significant relationship with the duration of Facebook use.

On the contrary, this study did not find any association between the duration of Facebook use and other socio-economic variables those were: faculty ($\chi^2 = 1.177$; $p = .555$), gender ($\chi^2 = 2.249$; $p = .134$), and watching TV ($\chi^2 = 1.120$, $p = .571$).

Table 4 Distribution of socio-demographic characteristics by the duration of Facebook use

Variable (N = 385)	Duration of Using Facebook		χ^2	p
	Up to 2 Hours n (%)	More than 2 Hours n (%)		
Gender of the respondents			2.249	.134
Female	79 (41.4)	112 (58.6)		
Male	95 (49.0)	99 (51.0)		
Living place of the respondents			4.007	.050
Campus	97 (50.3)	96 (49.7)		
City	77 (40.1)	115 (59.9)		
Area of residence of the family			4.989	.030
Rural & suburban	108 (50.2)	107 (49.8)		
Urban	66 (38.8)	104 (61.2)		

Variable (N = 385)	Duration of Using Facebook		χ^2	p
	Up to 2 Hours n (%)	More than 2 Hours n (%)		
Reading newspaper			8.485	.014
Irregular	57 (37.7)	94 (62.3)		
Sometimes	55 (44.7)	68 (55.3)		
Regular	62 (55.9)	49 (44.1)		
Watching TV			1.120	.571
Irregular	102 (46.6)	117 (53.4)		
Sometimes	35 (40.2)	52 (59.8)		
Regular	37 (46.8)	42 (53.2)		
Respondents' father education			9.546	.008
Up to Primary	37 (63.8)	21 (36.2)		
Secondary/Higher Secondary	57 (42.2)	78 (57.8)		
Honors/Masters	80 (41.7)	112 (58.3)		
Respondents' mother education			6.044	.049
Up to Primary	54 (55.7)	43 (44.3)		
Secondary & H. Secondary	83 (42.8)	111 (57.2)		
Honors/Masters	37 (39.4)	57 (60.6)		
Faculty of the respondents			1.177	.555
Arts/Social Science	53 (48.2)	57 (51.8)		
Law/Business Administration	44 (47.3)	49 (52.7)		
Science/Bio-Science/Engineering	77 (42.3)	105 (57.7)		

Note: Rows against the categories of characteristics sum to 100. Chi-square (χ^2) test was performed to find the association.

Discussion

This study explored the widespread use of Facebook among university level students. Addiction to Facebook has effects on users psychological, mental, and physical health. According to the findings, the majority of the students accessed Facebook daily, in higher numbers than similar past studies (Kalpidon et al., 2011; Masthi et al., 2015). Most of the students pass time on Facebook on average, more than 2 hours every day, which contradicted with the findings reported by other studies (Ellison et al., 2007; Jha et al., 2016;). On the other hand, a similar finding was gained by a study conducted among the students of Dow University in Pakistan (Farooqi et al., 2013). This study supported the previous studies (Gafui & Deri, 2012; Masthi et al., 2015) indicating the majority of students used mobile devices to access Facebook. This new technique of accessing Facebook might be owing to greater internet accessibility, connectivity, and latest versions of operating systems (Android, Microsoft), on mobile devices and other electric devices like laptops, Desktop, Notebook, and Tab that support Facebook use. Therefore, passing time on Facebook may significantly hamper a student's academic Results. In this survey, 61.6

percent of respondents agreed that Facebook had a detrimental impact on their studies, which was greater than a prior study's conclusion (Farooqi et al., 2013).

The study findings depict that most of the respondents of our study report suffering from different health-related problems like headache (55%), eye pain (62%), blurred eyes (50%), wrist pain (42%), laziness (60%), and insomnia (52%). Our study reveals that more than 50% of students spent their mealtime using Facebook. One-third of them get angry when using Facebook is interrupted by their family members. Previous studies revealed adverse effects of Facebook and Internet use, such as headache, backache, weight change, and eye problems (Masthi et al., 2015). Another study revealed that spending more time on Facebook can cause musculoskeletal pain, headache, eye pain, eye irritation, and skipped meals similar to our findings (Al-Dubai et al., 2013).

Our study found that more than 50% of students spent their mealtime using Facebook, one-third of them get angry when they interrupted from using Facebook from their family members, 42% of them suffer from wrist pain, and about 50% of them suffer from blurred eyes. The previous study found a significant association with some health problems (migraines, back

pain, excess weight, obesity, insufficient rest), psychological aspects (risk of eating disorders, risk of mental disorders) that be justified with our study (Fernández et al., 2015).

Among the respondents, who think that they are more addicted to Facebook than others, suffer from more health-related problems than others. Excessive usage of social media, according to previous studies, jeopardizes genuine live social connection and academic achievement. Relationship issues, personal loneliness, and depression have all been linked to it (Kuss & Griffiths, 2011; Weiser, 2002). Another study indicated that those who have been diagnosed with addiction are at significant risk of getting abnormal general mental health. Somatic symptoms, anxiety and sleeplessness, social dysfunction, and a variety of depressions are all common (Mph, 2015). In our study, we found some mental health problems by Facebook addiction like getting angry with family members and friends, loneliness, becoming excited when they see something unexpected on Facebook as well as physical problems like waking up lately, laziness, and spending mealtime by using Facebook and so on.

Our study also found a significant association between health effects and the long duration of using Facebook, reporting that the respondents who spend more time on Facebook can be affected by health problems like headache, wrist pain, waist pain, cannot refrain from using Facebook despite having the speed of the urine, wake up early late and spent mealtime by using Facebook and this finding is in line with another study that revealed mood modification, tolerance, withdrawal could be happened by using Facebook, and negatively related to conscientiousness delayed bedtime and rising time (Andreassen et al., 2012). However, the study findings found that seven out of 14 items of health effects had a significant positive association with the students' Facebook use for more than two hours daily while the remaining seven items did not have any effect. This inequality may be due to the differences in socio-demographic and other behavioral factors that influenced the study participants.

The study reported that the respondents who live in the campus area spend more time on Facebook than those who live in the city area. We also found that the students living in the campus area are significantly active ($p = .05$) than city area students. Usually, campus area students have no civic facilities; they are isolated from their families and get more free time to be quickly involved in using Facebook. On the other hand, city area students have so many civic amenities to be busy with different works like tuition, a part-time job and be with their family, and comparatively

financially wealthy to not be addicted to Facebook like campus students.

Among respondents who read the newspaper regularly are less addicted ($p = .014$) on Facebook than those who read the newspaper now and then or irregularly. People who read the news regularly are aware of what happened around them, resulting in less spending on Facebook. However, those who read newspapers irregularly, use Facebook more actively as they need to be updated.

Parents' education level is a major factor in measuring their children's addiction level. This study found that students spend more time on Facebook, whose fathers ($p = .008$) and mothers ($p = .049$) are more educated. Mostly, educated parents are financially wealthy than uneducated parents, and they have a sufficient monetary capacity to be connected with the Internet and Facebook than others.

However, its findings must be evaluated in light of significant limitations that should be taken into account in a future study on this topic. Primarily, in our study, we tried to determine the effects of Facebook use on physical and mental health by some variables, which were not enough to bring results properly. Besides, respondents might be biased by other respondents and social desirability.

Conclusion

This study proves a balanced initial insight between health effects and using Facebook among university students. Most of the students suffer from different variables like headache, eye pain, blurred eyes, frustration, insomnia, cannot wake up early in the morning, and becoming excited when seeing something unexpected on Facebook. To conclude, those who spend more time on Facebook are more addicted to Facebook than others; accordingly, they have different physical and mental health effects. This study suggests increasing student awareness of the connection between health and social media like Facebook should be prioritized.

The future researcher could be directed to find out, where the line can be drawn between intense Facebook use and Facebook addiction, and what variables contribute to the latter. Moreover, qualitative study using focus group discussion (FGD) and in-depth interviews can contribute to adding more comprehensive knowledge to identify the health-related issue about Facebook use. Furthermore, further study can be examined the health effects of Facebook use for a specific group like only male or female, or cultural differences like Muslim students or non-Muslim students, who lives with their family or who don't live with their family, relational differences like who are

single and who are a couple and at last researcher can find out the health effects of Facebook use between the students who comes from the rural area and who comes from the suburban area.

ORCID ID

Muhammad Zakaria: <http://orcid.org/0000-0002-6492-7900>

References

- Akter, R., & Islam, M. M. (2015). Does Facebooking help or hamper university students' wellbeing? *The Chittagong University Journal of Business Administration*, 27, 187-204.
- Al-Dubai, S. A. R., Ganasegeran, K., Al-Shagga, M. A. M., Yadav, H., & Arokiasamy, J. T. (2013). Adverse health effects and unhealthy behaviors among medical students using Facebook. *The Scientific World Journal*, 2013(465161), 1-5.
- Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale. *Psychological reports*, 110(2), 501-517.
- Bangladesh Telecommunication Regulatory Commission (BTRC). (2017). *Annual Report 2016-2017*. Retrieved from: <http://www.btrc.gov.bd/annual-report>
- Chavez, G. B., & Chavez Jr, F. C. (2017). Relationship between Facebook addiction and loneliness of Filipino high school students. *Liceo Journal of Higher Education Research*, 13(1), 50-60.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- Farooqi, H., Patel, H., Aslam, H. M., Ansari, I. Q., Khan, M., Iqbal, N., ... & Asad, N. (2013). Effect of Facebook on the life of medical university students. *International Archives of Medicine*, 6(1), 1-8.
- Fernández-Villa, T., Ojeda, J. A., Gómez, A. A., CARRAL, J., CANCELA, M., Delgado-Rodríguez, M., ... & Martín, V. (2015). Problematic internet use in university students: Associated factors and differences of gender. *Adicciones*, 27(4), 265-275.
- Gafni, R., & Deri, M. (2012). Costs and benefits of Facebook for undergraduate students. *Interdisciplinary Journal of Information, Knowledge, and Management*, 7(1), 45-61.
- Goodyear, V., Armour, K., & Wood, H. (2018). *The impact of social media on young people's health and wellbeing: Evidence, guidelines and actions*. Retrieved from [http://epapers.bham.ac.uk/3070/1/The_Impact_of_Social_Media_on_Young_People%E2%80%99s_Health_and_Wellbeing_\(FINAL_15TH_JAN\).pdf](http://epapers.bham.ac.uk/3070/1/The_Impact_of_Social_Media_on_Young_People%E2%80%99s_Health_and_Wellbeing_(FINAL_15TH_JAN).pdf)
- Junco, R. (2012). Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior*, 28(1), 187-198.
- Kalpidou, M., Costin, D., & Morris, J. (2011). The relationship between Facebook and the wellbeing of undergraduate college students. *Cyberpsychology, Behavior, and Social Networking*, 14(4), 183-189.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly*, 37(4), 509-523.
- Kaur, R., & Bashir, H. (2015). Impact of social media on mental health of adolescents. *International Journal of Education*, 5, 22-29.
- Kawsar, N. (2017). *A survey on social media use, engagement and addiction as predictors of academic performance* (Unpublished doctoral dissertation). East West University, Bangladesh.
- Khoshakhlagh, H., & Faramarzi, S. (2012). The relationship of emotional intelligence and mental disorders with internet addiction in internet users university students. *Addiction and Health*, 4(3-4), 133-141.
- Koc, M., & Gulyagci, S. (2013). Facebook addiction among Turkish college students: The role of psychological health, demographic, and usage characteristics. *Cyberpsychology, Behavior, and Social Networking*, 16(4), 279-284.
- Kuss, D. J., & Griffiths, M. D. (2011). Online social networking and addiction--A review of the psychological literature. *International Journal of Environmental Research and Public Health*, 8(9), 3528-3552.
- Littlejohn, S. W., & Foss, K., A. (2008). *Theories of human communication* (9th ed.). Boston, MA: Wadsworth.
- MPh, M. M. (2015). Facebook addiction and its relationship with mental health among Thai high school students. *Journal of Medical Association of Thailand*, 98(3), S81-S90.
- Masthi, N. R., Cadabam, S., & Sonakshi, S. (2015). Facebook addiction among health university students in Bengaluru. *International Journal of Health & Allied Sciences*, 4(1), 18-22.
- Rohilla, P, S., & Kumar, K. (2015). Impact of social media on mental health. *International Journal of Education*, 5, 142-149.

- Strickland, A. (2014). *Exploring the effects of social media use on the mental health of young adults* (Unpublished master's thesis). University of Central Florida, USA.
- Soron, T. R. (2015). Successful management of Facebook addiction in Bangladesh: A case report. *Journal of Psychiatry*, 18(2), 1-3.
- Weiser, E. B. (2001). The functions of Internet use and their social and psychological consequences. *Cyberpsychology & Behavior*, 4(6), 723-743.