

## The Relation between Facebook Use Pattern and Demographic Factors

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### Abstract

This study explored the pattern of Facebook use in Bangladesh and its relation with demographic factors. Stratified random sampling technique was used for data collection in this cross sectional study. We screened 1546 people from 11 different sites to find out those who were using Facebook for one year or more. Respondents with a diagnosed mental illness were excluded from the study. A total 341 people met the selection criteria. Participants completed an anonymous self-applied questionnaire. We used Statistical Package for the Social Sciences (SPSS) 21 for data analysis. The study revealed Facebook used rate was highest among the engineers and lowest among the garments workers. About 25% of the respondents had multiple Facebook accounts. Number of Facebook account was related to age, marital status and gender. Respondent having multiple Facebook accounts had more Facebook friends. Unmarried young male were more interested in creating multiple Facebook accounts. The first log in the Facebook in a day was related to gender and marital status. About 15% respondents admitted they failed to meet their responsibility due to excessive Facebook use and it was more common among the younger female students. In the study, 18% respondents considered themselves Facebook addict. The motivation and activities in Facebook varied among different demographic characteristics. Married people used Facebook more to communicate with friends, upload photos and for news while unmarried people used to play online games and to exchange academic information. Female were more concerned about the privacy setting. This study revealed few alarming pattern of Facebook in Bangladesh. Future researcher may explore the Facebook use related problems like Facebook addiction in developing countries in a large scale.

**Keywords:** Facebook; Use pattern; Demographic; Bangladesh; Relationship

### Introduction

Facebook is transforming lives. Millions of people are using Facebook from the rural areas recently. A report published by Indian Market Research Bureau (IMRB) revealed social media penetration in rural India doubled in the year 2014. Moreover, 84% of the internet users in India use internet primarily to access social media sites such as Facebook [1]. The neighboring country Bangladesh has similar explosive growth. Facebook serves people differently depending on their sociocultural background. Age, gender, marital status and occupations are important factors that determine Facebook use pattern and the impact. However, their role in shaping up usage pattern is inconclusive. This study provides data regarding the pattern of Facebook use in Bangladesh and explores the relation between Facebook use pattern and demographic factors. Most of the earlier studies reported that females were more interested in Facebook use [2-5]. However, few studies found opposite [6]. The difference was noticed in motivation and activities. Female used social networking sites for communication with the members of their peer group [7], whereas male used it for social compensation, learning and social identity gratifications. Men used social networking sites for forming new relations while women used it for maintenance of existing relations [8]. Female Facebook users scored higher on scales for social connection and posting of photographs [3] and they were more concerned about privacy issue [9]. However, despite having increased concern about privacy, women were more likely to post a photograph of themselves in their profile and they did not mind having publicly viewable Facebook account, post photos, and post photo albums. Moreover, female spent one hour extra in Facebook everyday than male did [10]. Facebook is most popular among the young people of 18 to 29 year among them 87% used social networking sites it dropped to 39% among the people aged 65 year and above [11,12]. Moreover, the usage pattern changed with age [13]. Moreover, the impact of Facebook in real life and the risk of developing Facebook addiction are not same for every age. Most of the researchers observed young adults particularly college students were at risk of developing problematic internet use [14,15]. Teenagers had more friends compared to older users. However, most

of the earlier researches were limited to young students [16]. The senior citizens were hardly included in these studies. Researchers found using social networking sites negatively correlated with marriage quality and happiness and it was positively correlated with experiencing a troubled relationship and thinking about divorce [17]. About 65% of American medical students had Facebook accounts [10] and Pakistani undergraduate medical students had similar rate [18]. However, to generalize the rate of Facebook use we need more data from more developed and developing countries. Most of the previous studies were confined to students or health professionals. People of other professions like housewives, scientists, garments workers and retired persons were excluded in the earlier researches. Even though social networking site is a global phenomenon, it is constrained by local conditions such as culture [19]. For this Facebook usage pattern in the developing countries, differ from western developed world. However, the South East Asia region suffers dearth of data regarding Facebook use. There were few studies on social networking sites in Bangladesh [20-22]. These studies had small sample size and mostly restricted among the students. Moreover, none the previous studies tried to explore relation between demographic factor and Facebook use pattern. This cross sectional study attempt to fill this gap.

### Materials and Methods

#### Participants

Study participants were doctors, engineers, scientists, garments workers, students from schools, colleges, universities, unemployed, housewives, businessmen and retired persons.

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We used stratified random sampling technique and stratification was based on age, occupation and availability of internet. The inclusion criteria were (a) age 13 years and above and (b) using Facebook for at least one year. Selected individuals were excluded if they had any diagnosed mental disorders or serious physical condition that prevented them from completing the questionnaire. This cross sectional study was conducted from April 2013 to December 2013 at the eleven different sites in Dhaka, Bangladesh: We collected data from a public and a private educational institution from all 3 level of education (school, college and university) plus two professional academic institutions, one research organization and a garments factory. Hundred respondents were interviewed from each of these institutions. Community sample was collected from 100 houses with door-to-door visit. Institutional Review Committee approved the study. See Figure 1 for data collection process. We screened 1546 people from the different sites in their convenient and leisure period. Parental or teacher informed consent was taken for minors. Among them 343 respondents met our selection

criteria. However, two respondents withdrawn themselves from the study for time constrain.

### Data collection tools

We used a pretested self-applied anonymous semi structured questionnaire for data collection. It was composed of: A plain language explanatory statement to inform the participant about the aims of the study with the risks and benefits associated with participation. A set of four demographic questions relating to age, gender, marital status and occupation. Facebook use and impact related questions. The authors constructed these questions and the questionnaire was pretested on 30 volunteers. We made necessary correction during the pretesting for better understanding of the respondents. It was a paper pencil study.

### Statistical Analysis

We analyzed the data using IBM Statistical Package for Social Sciences (SPSS) version 21. Chi-square test was done to compare

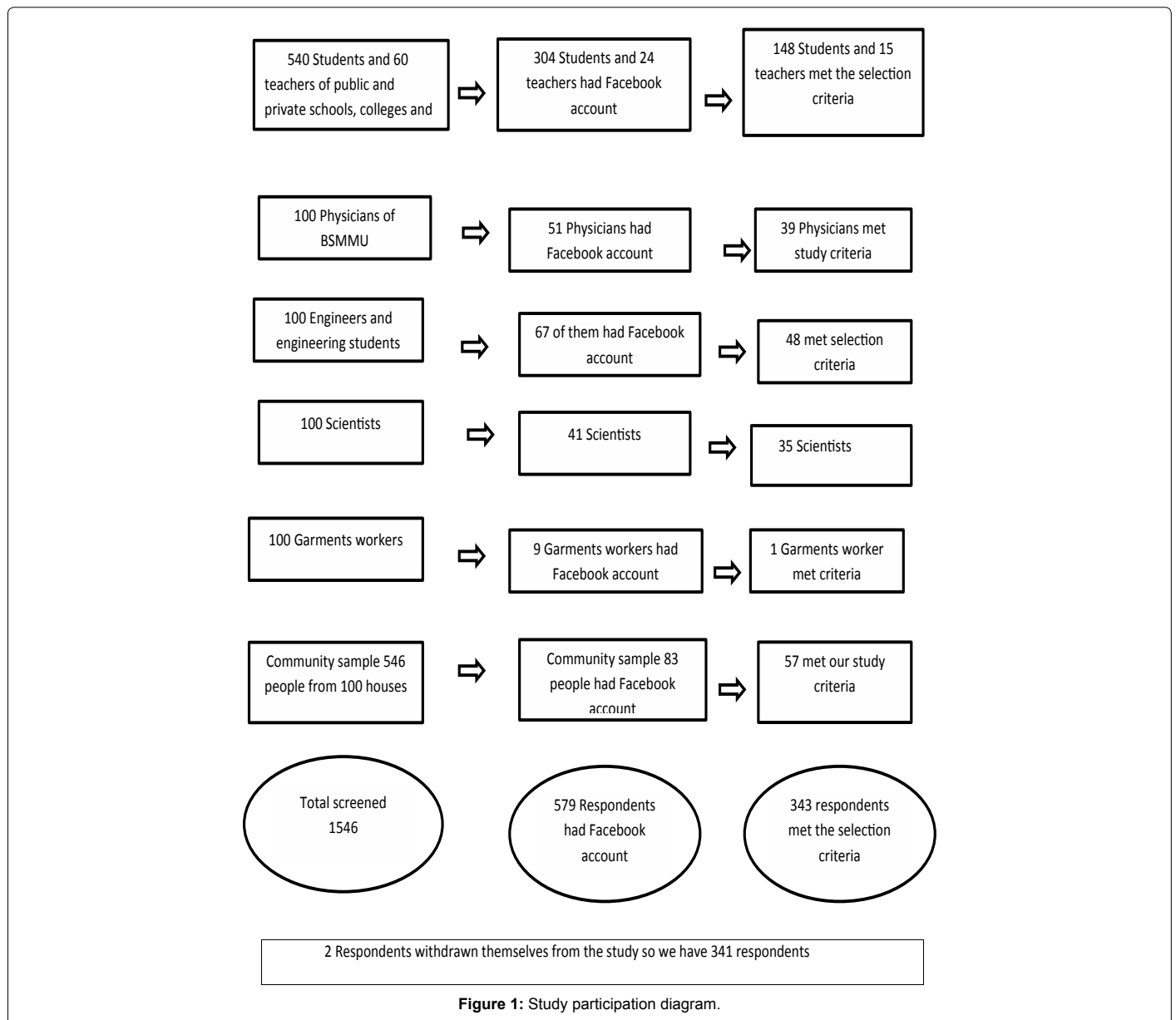


Figure 1: Study participation diagram.

qualitative variables and t-test for comparing means of different groups. Differences in the Facebook use pattern within the same categories were analyzed by ANOVA test. Pearson correlation and regression analysis was done to find out relations. We carried out all the analyses at 95% confidence interval (CI) and P values 0.05 or less was considered statistically significant.

## Result

Respondents' age ranged from 13 to 61 years. The demographic characteristics were presented in Table 1. The study revealed about 14% of respondents used Facebook before 13 year and about 3% of people used Facebook first time after 50 year. The median age of first creating Facebook account was 23 year. Female created Facebook account earlier than male. A respondent spent 118 minutes in Facebook every day. Female spent more times in Facebook. Unmarried and unemployed people enjoyed highest time in Facebook. However, demographic factors failed to reach the level of significance. About 25% of respondents had multiple (2 to 6) Facebook accounts. Among the demographic factors marital status ( $\chi^2 = 50.77$ ,  $df = 20$ ,  $p = .001$ ) was significantly related to number of Facebook accounts. Moreover, number of Facebook account was positively correlated ( $R = .105$ ,  $R^2 = .011$ ,  $p = .05$ ) with total duration of use in a day. When the respondents got a chance to use the internet, about two-third of them checked their Facebook first without doing something else. Among the respondents of middle age group about 50% of respondents checked Facebook and rest checked email. First online activity of the respondent was related significantly with gender ( $\chi^2 = 8.77$ ,  $df = 2$ ,  $p = .012$ ), marital status ( $\chi^2 = 22.5$ ,  $df = 8$ ,  $p = .004$ ) and occupation ( $\chi^2 = 49$ ,  $df = 22$ ,  $p = .001$ ). In this study, about 90% of the

people changed their Facebook status 0-5 times a day. Female changed their status more frequent than male ( $p = .021$ ). Retired people changed Facebook most frequently and the frequency of changing Facebook status was significantly related to occupation. In this study respondent had average 279 Facebook friends. However, divorced people had the highest number of average 575 Facebook friends. The number of Facebook friends were not related to demographic factors, however age and marital status were close to level of significance. About 33% of the respondents ( $n = 341$ ) used Facebook just after awaking without doing something else and female did this more frequently. Male used Facebook more in their offices and females used it at the leisure period. Married people used Facebook about 5 times more than unmarried in their offices. First log in Facebook in a day was related to gender ( $\chi^2 = 20.46$ ,  $df = 7$ ,  $p = .005$ ) and marital status ( $\chi^2 = 59.76$ ,  $df = 28$ ,  $p = .001$ ). Female used Facebook to communicate, male used Facebook for news and creating new relations. Motivation for using Facebook was found significantly related to age ( $\chi^2 = 15.756$ ,  $df = 6$ ,  $p = .015$ ), gender ( $\chi^2 = 21.61$ ,  $df = 6$ ,  $p = .001$ ) and marital status ( $\chi^2 = 43.9$ ,  $df = 24$ ,  $p = .008$ ). Moreover, the actual activity in Facebook found related to sex ( $\chi^2 = 21.6$ ,  $df = 6$ ,  $p = .001$ ), marital status ( $\chi^2 = 43.9$ ,  $df = 24$ ,  $p = .008$ ) and occupation ( $\chi^2 = 205$ ,  $df = 66$ ,  $p = .001$ ). About 15% of respondents of the study admitted their failure to meet their responsibility due to Facebook use. Female, younger age, university students and married people were more likely to face this problem. However, the relation between failure in performing responsibility and demographic factors did not reach the level of significance. About 19% of respondents ( $n = 341$ ) considered themselves Facebook addicts, among them 37% were 13 to 20 year old. Fifty four percent of the Facebook addicts were unmarried and 41% of them were married. About 55% female changed privacy setting. The default privacy setting was related to gender ( $\chi^2 = 4.9$ ,  $df = 1$ ,  $p = .026$ ). Moreover, respondents having multiple Facebook accounts were more likely to consider themselves as Facebook addict than those having single Facebook account ( $\chi^2 = 14.44$ ,  $df = 5$ ,  $p = .013$ ).

## Discussion

The current study revealed the important role of demographic factors in determining Facebook use pattern and its impact. Fifty-six percent students had Facebook account and only two percent garments workers had it. In Bangladesh, Facebook was restricted to certain group of people like young students due to high internet charge. Moreover, the poor were unable to buy a device that support internet. This scenario was reflected in the wide gap of having a Facebook account among the people of different backgrounds. Facebook use among Bangladeshi students was lower than the earlier findings [18,23]. The lower rate in our study might be observed due to inclusion of students of schools, colleges and universities in combined. The other factors might be higher internet cost, over protective parenting, parental concern of social media and mobile use in Bangladesh. However, with the grace of mobile companies and ongoing government support Facebook is becoming available to the poor. Fifty one percent of doctors had Facebook account and the rate was higher than the findings of Keller et al. study [12] and lower than the finding of Hollinderbäumer et al. [18]. Age was another important factor that determined and influenced a person to create a Facebook account. Facebook was most popular among the people of 18 to 30 year. Considering the legal terms and conditions of Facebook, we included people over 13 year in this study. However, the study revealed that about 14% of the respondents used Facebook before 13 year violating the terms and conditions of the site. They created their account by lying about their date of birth. The children of Dhaka spent their time indoors browsing internet and

Character	Number (n)	Percentage (%)
<b>Age in year</b>		
13-20	98	28
21-30	108	31
31-40	89	26
41-50	31	09
51-61	15	04
<b>Mean age 27 ± 10.6 (13-61) year</b>		
<b>Gender</b>		
Male	170	49
Female	171	50
<b>Marital status</b>		
Unmarried	149	43
Married	183	53
Divorced	04	01
Separated	02	0.6
Widow	03	0.9
<b>Occupation</b>		
Unemployed	16	04
Student	48	14
College student	49	14
University student	51	15
Teacher	14	04
Engineer	48	14
Physician	39	11
Scientist/Research worker	35	10
Housewife	23	07
Businessman	14	04
Retired person	03	01
Garments worker	01	0.3

**Table 1:** Demographic characteristic of the respondents (n=341).

Facebook, playing video games or watching television. They are more vulnerable to be the victim of cyber bullying, porn addiction, online gambling. A significant variation was observed in first online activity among the people of different age groups. People who were under 30 year and over 50 year checked their Facebook first more frequent than the middle age group. The older people used Facebook as a cost effective easy medium to keep in touch with friends and families. They watched the photos or activities of their children and grandchildren who lived away from them. Facebook has reduced their loneliness. Judd and Kennedy reported that with the increase of social networking sites, the use of other electronic media such as email has declined<sup>25</sup>. Our study support their statement as we observed respondents logged in Facebook two times more frequently than email. About 70% of respondents used mobile phone to access Facebook. Smart phones and easy availability has accelerated the use of Facebook through smart phones. However, it was lower than the earlier study [26]. About 25% of the respondents created multiple Facebook accounts. They maintained multiple accounts to accommodate different types of people in separate accounts. Unmarried and unemployed people were more interested in creating multiple Facebook accounts and had more Facebook friends. The youth was found to be involved in various antisocial and political activities through their fake Facebook accounts. A good number of students and sometimes few teachers were arrested in Bangladesh for posting status or photos that hurt the religious or political sentiments. In this study, a respondent had average 279 Facebook friends that was higher than the average Facebook friends of a respondents had in United States. Bangladeshi user possessed higher number of friends due to more interactive society and historically Bangladeshis are quick to seize friendship. In this study female respondents had more Facebook friends than male. Raacke found similar result in their study however, Pfeil et al. found opposite [15,16]. Divorced people had highest number of Facebook friends. It was not clear whether the excessive involvement in the Facebook leads to divorce or the loneliness after the divorce provoked them to search more friends. Despite popular perceptions that young people disclose a considerable amount of information online than adult, our study established no such significant difference in privacy setting among different age groups. However, female were more concerned about the privacy setting than male. Motivation and activities in Facebook largely depend on demography. Male and female used Facebook for different reasons. Female used Facebook to upload photo about two times more frequently than male. The profile photos and other photos plays an important role in initiation friendship. The number of likes and comments in the photos reinforced to post more and more photos in their Facebook. This creates a competitive virtual world of getting more comments and likes than others get. The appearance contingency for self-worth had the strongest relationship with the intensity of online photo sharing [27]. Facebook creates glamorous and fascinating virtual world that attract most of the people. People log in Facebook repeatedly just to find how many likes and comments are getting. Another important concern of recent years was Facebook addiction. Ulusu reported possible side effect and impact of social networking sites include addiction, waste of time, and money [28]. We observed that about fifteen percent people admitted that they faced problem due to excessive Facebook use. It was alarming that about 20% of the respondents considered themselves as Facebook addict. However, we did not use any valid. Facebook addiction scale to verify the belief. It was the first study in Bangladesh exploring the relation between demographic factors with the Facebook use pattern and its impact. We interviewed a number of people from different

sites and backgrounds. However, the cross sectional study design limits us to infer about causality. The study was self-reporting and it was reported by adolescents to older people, a reporting bias was possible. The questionnaire was pretested for its consistency and clarity. However, its reliability and validity was not tested. During the pretesting, the questionnaire was found to be consisted and easily understandable. We tried to include people of different backgrounds despite our efforts it was not possible to include people of all the professions. As Facebook is a relatively newer social media, policies must evolve as well to keep up with the changes. We recommend that Facebook to simplify all information regarding privacy strategies and policies so that all users, even the youngest ones, easily understand the privacy-related information. Parents, teacher and employer should be cautious about Facebook use of their children, students and employees as Facebook can hamper the academic, social and occupational performance. This study provided some baseline information. Further studies can be conducted on a larger scale, with a more diverse group of people to minimize bias and for better generalization. Moreover, future researchers could explore the Facebook addiction and its pattern. We recommend to develop a culturally validated and reliable scales for Facebook addiction that will can help in early detection of Facebook addiction (Tables 2 and 3).

Character	Number (n)	Percentage (%)
<b>Instrument used to access Facebook</b>		
Mobile phone	164	48
Computer-desktop/ laptop	105	31
Both	72	21
<b>Number of Facebook account</b>		
1	257	75
2	61	18
3	11	03
4	05	1.5
5	06	1.8
6	01	0.3
<b>First Use of Facebook in the Day</b>		
Just after awaking	112	33
Before going to Office,	47	14
Before going to class	57	17
At office	48	14
During class	22	07
At evening/ leisure period	35	10
At night	13	04
Just before going to sleep	07	02

Table 2: Facebook use related information (n=341).

<b>All are real life friends of the respondents</b>		
Yes	151	44
No	190	56
<b>Agree with the statement "It is right to make friend with unknown people."</b>		
Yes	139	41
No	190	59
<b>Member of opposite gender are more among the Facebook friends</b>		
Yes	135	40
No	206	60
<b>Do you change your privacy setting?</b>		
Yes	157	46
No	184	54

Table 3: Impact of Facebook use among the respondents (n=341).

## Conclusion

Facebook is an important medium of communication even in the developing countries like Bangladesh. There is clear evidence that demographic factors are related to Facebook use pattern and its impact. Children are using Facebook earlier than their eligible age. They are using Facebook in spite of experiencing negative consequences. The negative consequence extends from poor academic performance to Facebook addiction. Facebook addiction is an upcoming social, psychological and public health problem that need to address with proper guidance and care.

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