Study on smartphone addiction among the university students: A cross sectional survey-based study

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Abstract

University students almost universally use smartphones. The impact of smartphone addiction on academic performance is rarely studied among university students. In this study, the main objective was to explore the relationship between smartphone addiction and university enrollment. In order to collect the data, randomized sampling technique was used. To collect data a questionnaire was pretested and administered by an interviewer. The respondents' data were organized after collection. A data base was created in the computer using the software package Statistical package for the social sciences (SPSS) Version 22.0. Among the 295 respondents, 81.7% of the respondents were addicted to smartphones based on the smartphone addiction scale (SPAS) and there was significant relationship found between genders, marital status and studying class with type of phone use, where p-values were 0.032, 0.028, and 0.043. Students at different universities were found to be addicted to smartphones in this study. Globally, particularly in developing countries such as Bangladesh, it has become an increasing public health issue.

Keywords: Smartphone; Addiction; University; Student

1. Introduction

Our society has long relied on communication. People's daily lives have been changed significantly by the use of Smartphones [1]. Since the advent of the cell phone, the anomalous use of these devices has raised the question of whether abuse could lead to addiction [2]. Cell-phone addiction has been questioned without considering addiction as a concept [3]. As compared to drug or substance addiction, behavioral addiction is unique [4]. Smartphone usage under certain circumstances, including extraversion, self-esteem, neuroticism, age, and gender [5]. Mobile phones have significantly contributed to the new epidemic of this century [6]. In undergraduate and postgraduate medical education, smartphones can enhance learning activities [7]. It becomes essential to study smartphone addiction among medical students because it sheds light on how smartphones are used [8]. It is therefore considered smartphone addiction when a user excessively uses their smartphones to the point where they interfere with their daily lives [9]. There is evidence that university students' smartphone addiction negatively impacts their energy levels, sleep, eating habits, weight, exercise, and academic performance [10]. In addition to reinforcing social interactions, mobile phones can optimize communication between individuals and systems [11]. A smartphone is used for social networking, including Facebook, Instagram, What's App, Twitter, as well as gaming, e-mail, Slack, and other work-related activities [12]. Anxiety, depression, low conscientiousness, and high neuroticism have been linked to problematic smartphone use [13]. A person's mental and physical state can be adversely affected by the excessive use of smartphones [14]. Physical and mental health, social relationships, as well as academic and professional achievement are all affected by these flaws [15]. Mobile phones are becoming increasingly important, especially for students, due to their rapid social rhythm, busy daily lives, and complex interpersonal relationships [16]. Mobile phones have become increasingly popular in recent years [17]. Using mobile phones excessively can lead to mobile phone addiction, one of the most important social problems [18].
Addiction to smartphones is among the most common non-substance addictions, and its consequences are pessimistic [19]. Mobile phones are so enticing to teens that some of them rarely turn them off at night [20]. Using a smartphone in a compulsive manner can interfere with daily functioning [21]. University students are the most likely to own a smartphone and use it the most [22]. The symptoms of loneliness, boredom, anxiety, depression, stress, or lack of life satisfaction may be relieved online for smartphone addicts with dysphonic moods [23]. Excessive smartphone use may result in impulse control disorders, pathological gambling, decreased real-life social interaction, and decreased academic ability [24]. Depression, anxiety, and poor mental health are associated with excessive Internet use [25]. Smartphone overuse negatively impacts daily life [26]. University students are the most likely to own a smartphone and use it the most [27]. The symptoms of loneliness, boredom, anxiety, depression, stress, or lack of life satisfaction may be relieved online for smartphone addicts with dysphonic moods [28]. Excessive smartphone use may result in impulse control disorders, pathological gambling, decreased real-life social interaction, and decreased academic ability [24]. Depression, anxiety, and poor mental health are associated with excessive Internet use [25]. Smartphone overuse negatively impacts daily life [26]. University students are the most likely to own a smartphone and use it the most [27]. Similar to internet addiction, smartphone addiction can be classified as a behavioral addiction [29]. In university students, smartphone addiction, its relationship with academic procrastination, and its impact on quality of life are on the rise [30], which can negatively affect emotional intelligence and self-regulation, thereby affecting quality of life [31]. There are a variety of factors associated with depression, including smartphone addiction, internet addiction, and mobile phone addiction [32, 33].

2. Materials and methods

A six-month cross-sectional observational study was conducted. Several private universities in Dhaka city participated in this study. In their free time, University students were approached randomly after class hours. A questionnaire and consent form were distributed to students. In order to conduct the study, the institutional ethical committee approved it. The Smart Phone Addiction Scale (SPAS) was used to collect data. It consists of 10 self-report items with a 6-point Likert scale. Microsoft Excel and SPSS version 22 were used to analyze the results.

2.1. Data analysis & interpretation

Table 1 Distribution of respondents by type of phone use (n=295)

<table>
<thead>
<tr>
<th>Type of phone Use</th>
<th>Frequency</th>
<th>percentage</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Android</td>
<td>283</td>
<td>95.9%</td>
<td>1.0407 ± 0.19788</td>
</tr>
<tr>
<td>I Phone</td>
<td>12</td>
<td>4.1%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>295</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Table-1 revealed that 95.9% and 4.1% of respondents had Android or iPhone phones use respectively.

Figure 1 Distribution of respondents by type of phone use
Table 2 Distribution of respondents by use a Smartphone for (n=295)

<table>
<thead>
<tr>
<th>Use a Smartphone</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texting</td>
<td>38</td>
<td>12.9%</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td>17</td>
<td>5.8%</td>
<td></td>
</tr>
<tr>
<td>Surfing the internet</td>
<td>107</td>
<td>36.3%</td>
<td>3.5424 ± 1.39876</td>
</tr>
<tr>
<td>Games</td>
<td>13</td>
<td>4.4%</td>
<td></td>
</tr>
<tr>
<td>Facebook</td>
<td>120</td>
<td>40.7%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>295</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

It was found that 12.9%, 5.8%, 36.3%, 4.4% and 40.7% of the respondents used their smartphones for texting, emailing, surfing the web, playing games, and using Facebook respectively.

Table 3 Distribution of respondents by mostly use smartphone everyday (n=295)

<table>
<thead>
<tr>
<th>Mostly use</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>1</td>
<td>0.3%</td>
<td></td>
</tr>
<tr>
<td>Afternoon</td>
<td>23</td>
<td>7.8%</td>
<td>4.0847 ± 0.85887</td>
</tr>
<tr>
<td>Evening</td>
<td>22</td>
<td>7.5%</td>
<td></td>
</tr>
<tr>
<td>Night</td>
<td>153</td>
<td>51.9%</td>
<td></td>
</tr>
<tr>
<td>Any time</td>
<td>96</td>
<td>32.5%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>295</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

According to table-3, most of the respondents use their smartphones in the morning, afternoon, evening, night, or any time of the day (0.3%, 7.8%, 7.5%, 51.9%, and 32.5%, respectively).
According to table-4, 29.2%, 18.0%, 34.9%, 15.9%, and 2.0% of the respondents used Internet, Messengers, Social networking services, Entertainment, and Games the most.
Table 5 Distribution of respondents by smartphone addiction scale (n=295)

<table>
<thead>
<tr>
<th>Addiction</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score 10 – 30 (Non-addicted)</td>
<td>54</td>
<td>18.3%</td>
<td></td>
</tr>
<tr>
<td>31 – 58 (addicted group)</td>
<td>241</td>
<td>81.7%</td>
<td>37.8881±9.41942</td>
</tr>
<tr>
<td>Total</td>
<td>295</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

The table-5 revealed that the mean smartphone addiction of the respondents was 37.8881± 9.41942 and it was found that 18.3% and 81.7% of the respondents belonged to (score 10 to 30), and (score 31 to 58).

3. Discussion

Studying smartphone addiction among university students was the purpose of the study. 295 samples were used in this research to determine if studies on smartphone addiction are associated with university students. Among the respondents, the median age was 21.5356 x 1.32657 years, ranging from 18 to 25. In another study, the age group 21 to 23 years (71.8%) was also found to be more addicted [34, 35]. The mean gender of the respondents was 1.4746 ± 0.50020. 52.5% and 47.5% of the respondents were females and males, respectively. It was found that female groups were more addicted. Respondents had an average marital status of 1.9288 ± 0.25757. 7.1% and 92.9% of the respondents were married and unmarried, respectively. There was a higher rate of addiction among unmarried people. It was found that 99.7% and 0.3% of the respondents belonged to graduate or postgraduate studies, respectively. Graduates were found to be more addicted. Based on the mean residential area of the respondents, it was determined that 74.2% and 25.8% were urban and rural, respectively. The study found that urban people were more addicted. There were 95.9% and 4.1% of respondents who used Androids and iPhones, respectively. Android users were found to be more addicted. It was found that 12.9%, 5.8%, 36.3%, 4.4%, and 40.7% of respondents used their smartphone for texting, e-mail, surfing the internet, playing games, and using Facebook. Facebook users were found to be more addicted. According to the results of the study, 34.6%, 3.4%, 15.3%, 2.4% and 44.4% of the respondents used a smartphone in the places that they were familiar with, places that they were unfamiliar with, urban environments, non-urban environments, and other places. The most common place is others. 54.9% of respondents used their smartphones rarely, 37.6% sometimes, and 7.5% always while driving, talking or walking. Rarely were there more. Based on the survey results, it was found that 0.3%, 7.8%, 7.5%, 51.9%, and 32.5% of respondents mostly used their smartphones in the morning, afternoon, evening, night, and at any time of the day. Night users were found to be more addicted. Based on the mean of the applications most commonly used by respondents, it was found that 29.2%, 18.0%, 34.9%, 15.9%, and 2.0% of respondents mainly used the internet, messengers, social networking services, entertainment, and games. Most people use social networking services. It was found that 7.1%, 50.2%, 39.3%, and 3.4% of the respondents were between the ages of (0-1) years, (2-4) years, (5-10) years and (11-15 years). The most common age group was (2-4) years. It was found that 18.3% and 81.7% of respondents belonged to the 10 to 30 and 31 to 58 age groups, respectively. It found that (31 to 58) were addicted, which was also found in another study [36]. There is a significant association between gender and type of phone use regarding smartphone addiction, according to this study. 0.032 was the p-value, which is less than 0.05. Smartphone addiction is significantly associated with marital status and type of phone use. There was a p-value of 0.028, which was less than 0.05. Residential area and marital status are significantly associated with smartphone addiction. The p-value

Figure 5 Distribution of respondents by smartphone addiction scale
was 0.045, which is less than 0.05. Smartphone addiction was significantly associated with type of phone use, and the p-value was 0.043.

4. Conclusion

There is a great impact of smartphone addiction on university students. This study found that university students are significantly addicted to smartphones. In order to improve performance, students should be taught not to overuse smartphones and maintain healthy lifestyles, talking between work and relaxation.

Recommendation

To prevent and minimize smartphone addiction among university students, the following recommendations are made based on the study findings.


Limitation

The study has several limitations. Data on behavior, sleep, and smartphones in this study were derived from self-report questionnaires, which inevitably have biases. Due to the limited number of participants in this study, our conclusions must be conservative. In the future, we will conduct follow-up research.

7. Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

In developing to this study concept, the study materials, and interpreting the results, all authors collaborated. Gather & analyzed data and wrote the manuscript. A agreement on the order of presentation of the authors was reached after all authors read and approved the final version of the manuscript.

References


