

## RESEARCH REPORT

# IMPACT OF FACEBOOK ADDICTION ON ACADEMIC PERFORMANCE AMONG UNDERGRADUATE STUDENTS

### ABSTRACT

#### BACKGROUND

The online social networking is rapidly changing the lives of human beings. Young people especially students are more addicted to new technologies and to online social networking site. The popularity of social media platforms like Facebook, Twitter, YouTube and Whatsapp continue to grow and making remarkable changes in world now a day.

#### OBJECTIVE

To analyze the impact of Facebook addiction on academic performance, self-esteem and intelligence quotient (IQ) level among the undergraduate students.

#### METHODOLOGY

This is a cross sectional observational study, that was conducted on undergraduate students of College of Physical Therapy. 150 undergraduate PT students (males and females) of second, third, fourth and fifth years were included in this study, who have been using Facebook from 8 months or above.

#### RESULT

Among 150 students, 83 (55.33%) participants were Facebook addicted, whereas 67 (44.67%) participants were not addicted to Facebook. The age of the students range from 18 to 25 years and the mean age of all students was 21.7 years. There was a significant association between Facebook addiction with academic performance of students according to their GPA (p-value =0.00), with IQ level (p-value = 0.00), and with self-esteem level (p-value = 0.00) of students.

#### CONCLUSION

Frequent use of Facebook in students makes them addicted, that affects their academic performance, IQ level and self-esteem.

#### KEYWORDS

Facebook Addiction, Academic Performance, GPA, Intelligent Quotient (IQ), Self-esteem, Online Social Networking

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## INTRODUCTION

The online social networking is rapidly changing the lives of human beings<sup>1</sup>. The use of social network has turned into a focal part of the developing countries. Besides its huge benefits, it has now become a captivating issue of civil argument that whether it is helpful invention or loaded with vulnerabilities. The greater part of the users does not understand the negative effect of online networking on their lives because they are getting addicted to it<sup>2</sup>. Young people are more addicted to new technologies and to online social networking site<sup>3</sup>. The popularity of social media platforms like Facebook, Twitter, YouTube and Whatsapp continue to grow and making remarkable changes in world now a day<sup>1</sup>. Social networking is one of the best communication tools, providing people with amazing opportunities to interact with each other<sup>4,5</sup>. The online networking has been pervading over day by day schedules in various ways.

In 2016, 88.5% population of United States (U.S.) uses internet on a regular basis<sup>6</sup>. In Pakistan, social networking is becoming the most powerful channel of providing up-to-date information even the entrance rate is comparatively low as compared to the other developed countries. In Pakistan internet use is increasing. In 2013, 10.9% population of Pakistan was using internet on a regular basis<sup>7</sup>, whereas, in 2016 it becomes 17.8%<sup>6</sup>.

Now-a-days Facebook is the most popular website of social media and it is one of the leading social networking sites<sup>8</sup>. Its active users are increasing rapidly worldwide<sup>6</sup>. As the usage of social media, particularly the Facebook is growing rapidly among students<sup>9,10</sup>. They are using this medium of communication frequently on daily basis. Facebook is a medium of communication between individuals but unfortunately people are increasingly become a Facebook addicts. When Mark Zuckerberg started Facebook in 2004, he had no idea how big it would really get to be and within a couple of months, number of individuals joined the group<sup>11</sup>. There are more than 1.49 billion monthly active users of Facebook around the world. Approximately 10.6-11.8 million Facebook users in Pakistan have been recorded<sup>12</sup>. It has become one of the most frequently accessed website now-a-days. Facebook popularity is rising and can be attributed to its various fun components. Therefore, considerable negative impacts are frequently either ignored or need more attention, such as Facebook addiction, security issues through hacking or stalking. Facebook users are often unaware of some adverse effects of Facebook addiction.

Now-a-days people are far away from making actual relationship through face to face contact with individuals around them. This is because they

have an increased tendency to spend great number of hours on Facebook, enjoying day by day activities. This subsequently creates loneliness, diminished concentration, poor academic participation, low academic evaluation, poor academic performance, courage to bunk from classes and so on<sup>13</sup>. Academic performance is the means by that student is assessed in studies. Poor academic grades are considered as bad academic performance.

The living of students has been changed dramatically over time. Now, they live a life of social media and communication technologies, mainly including Facebook and messaging<sup>14</sup>. Today's student sit in front of the television, write instant messaging or participate in Facebook activities, while on the other hand simultaneously doing and engage in their academic work<sup>15</sup>. They frequently post and check status on Facebook. They 'comment' and 'like', more than they talk to the person next to them. There is a nonstop diversion in their lives in light of notifications of Facebook. This continues along with a lecture in a class or during the study time of exams. In spite of the fact that it's an era of multi-tasking<sup>14</sup>, however, frequent responding to the notifications can disturbs the concentration of students, that may has negative impact on academic performance. Despite this, there are numerous students who have no significant correlation of computer use with their academic performance<sup>16</sup>.

Users can get new and relevant data of their means in a more efficient manner. This may thus help to augment and enhance the learning performance of students as to other online websites and platforms. Furthermore multiple signs of Facebook addiction were shown by research in Pakistan on medical students<sup>17</sup>. Where, there are such a variety of advantages of Facebook use, there are dangers as well. An exploratory study was conducted in Pakistan to analyze the impact of internet on the academic performance and social life of university students<sup>18</sup>. Another research that was conducted in Pakistan showed that users of Facebook studied less and had low academic performance<sup>19</sup>.

Academic achievement or success is the prime attainable goal of any student, with their social and family responsibilities. The university students love Facebook profoundly, instead of just a leisure activity or leisure time. The University and college students are one of the real populace utilizing Facebook for entertainment mainly. This includes association with their new and old companions, sharing every day and routine activities, using latest features such as photo sharing, comments, tags, publishing wall post, and writing their status updates even during class. If Facebook is used widely and intensively for academic purpose and essential communication

with others, positive impact on academic performance, self-esteem and intelligent quotient (IQ) level could be expected. On the other hand, if it is used for fun and recreational activities only (for example; playing games, tagging and posting photos, stalk people), there may be more negative impacts on one's academic performance, self-esteem and intelligent quotient. Students possibly devote too much time to Facebook and get addicted.

There is likelihood that the much utilization of Facebook can lead the individuals to abnormal psychological behaviors, such as depression, anxiety or narcissistic behavior<sup>20</sup>. A number of studies had been done with the aim to analyze the effects of social networking (for example, Facebook) on different aspects of students<sup>19-26</sup>.

It has been also anticipated that college students with time-consuming range of social networking along with their fellow students and teachers, can be a path to obtain data, acquiring knowledge, and social acknowledgment. Hence, this can bring enthusiasm in terms of their self-esteem, realization with university life, and improved grades<sup>26,27</sup>. On the basis of some mentioned research findings, it has been suggested that Facebook has a great impact on lives of students. The Pakistani population, especially the undergraduates of Karachi, has not been excluded from the majority that has joined Facebook and surf it every day. So this kind of study would provide an insight on the impact of Facebook on the undergraduates, especially of College of Physical Therapy. The primary objective of this study was to demonstrate the relationship between Facebook addiction and its impact on their academic performance, self-esteem and IQ level. The study will help the undergraduate students in understanding the impact of social media, especially the Facebook, on these variables.

## METHODOLOGY

### Research Design

Cross-sectional observational study

### Population

The undergraduate students of College of Physical Therapy

### Sample size

150 undergraduate students

### Inclusion criteria

Both male and female, undergraduate students of Doctor of Physical Therapy (DPT), who have been using Facebook from 8 months or above were included in this study<sup>25</sup>.

### Exclusion criteria

Participants diagnosed with any learning disabilities and those who do not have Facebook account were not included in the study. The students of first year DPT were also excluded from the study because at the time of data collection they were fresh newcomers and they did not have any Grade Point Average (GPA) record. Ethical Consideration Anonymity of the participants was maintained. Before the beginning of the study, the procedure was explained to the participants and each participant signed a consent form.

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### Data Collection Tool and Procedure

150 students that were meeting the inclusion criteria had been selected from College of Physical Therapy. Before the beginning of the survey, the study was explained to the participants. The data was collected through questionnaires. Questionnaires were distributed to the students and they returned them after filling.

Demographic data of the student with information about the academic performance and studying semester was also documented on questionnaire. GPA of semester exam was considered for recording the academic performance of the students. Bergen Facebook Addiction Scale was used to evaluate the Facebook addiction of students and categorized them as "Facebook Addicted" and "Facebook Not Addicted". Intelligence Quotient (IQ) Questionnaire was used to categorize them as Extremely Low, Low, Below Average, Average, Intelligent, Superior Intelligent and Above Superior Intelligent. Rosenberg Self-Esteem Questionnaire was used to evaluate the level of self-esteem and categorized them as Low, Normal or High self-esteem.

### Data Analysis

We used SPSS (Statistical Package for the Social Science) version 20 to analyze our data. The frequency distribution, percentages, mean and standard deviation (SD) were determined for descriptive variables. Independent t-test and Pearson Chi-square test were applied to analyze the impact of Facebook addiction on different variables that include academic performance, self-esteem level, and IQ level. P-value of less than 0.05 was considered significant. Results were compared among Facebook addicted and Facebook not addicted participants.

## RESULT

Questionnaires were distributed to 150 students of Physical Therapy. The response rate was 100% as all 150 questionnaires were returned by students.

Among 150 students, 83 (55.33%) participants were Facebook addicted, whereas 67 (44.67%) participants were not addicted to Facebook.

The age of the students range from 18 to 25 years and the mean age of all students was 21.7 years. The mean age of participants of both Facebook addicted and not addicted groups was similar, despite the fact that there were more Facebook addicted participants. The statistical analysis shows no statistically significant difference ( $p$ -value = 0.35) between the mean of age of participants in both groups, shown in Table 1a and 1b.

| Table 1a: Age of Participants   |    |       |      |                 |
|---------------------------------|----|-------|------|-----------------|
| Bergen Facebook Addiction Scale | n  | Mean  | SD   | Std. Error Mean |
| Addicted                        | 83 | 21.61 | 1.50 | 0.16            |
| Not Addicted                    | 67 | 21.84 | 1.37 | 0.17            |

| Table 1b: Independent Samples Test on Age of Participants |   |      |                              |        |                 |                 |                       |   |       |
|---|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|-------|
| Equal Variances   | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |       |
|   | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |       |
|   |   |      |                              |        |                 |                 |                       | Lower                                     | Upper |
| Assumed   | 1.116                                   | 0.29 | -0.94                        | 148    | 0.35            | -0.22           | 0.24                  | -0.69                                     | 0.25  |
| Not Assumed   |   |      | -0.95                        | 145.73 | 0.35            | -0.22           | 0.23                  | -0.68                                     | 0.24  |

Table 2 shows the number (n) and percentages (%) of participants for distribution of gender, studying semester, academic performance by GPA, self-esteem and IQ level. Table 2 also shows the Crosstab statistics that was done through Pearson chi-square test, among Facebook addicted and not addicted participants for gender, studying semester, academic performance by GPA, self-esteem and IQ level. P-values were also shown in table 2 along with cross tabulation to analyze the impact of Facebook addiction on different variables.

Among all 150 students, there were more female respondents (127) than males (23), hence frequency of females is more in Facebook 'addicted' (81.9%) and 'not addicted' (88.1%) groups. Among 127 females, frequency and percentage of 'addicted' females (68, 53.54%) is more than 'not addicted' students (59, 46.46%). Same as with males, among 28 males, more male students (15, 53.57%) are 'addicted' to Facebook. Statistical analysis shows that there was no significant association between gender and Facebook addiction ( $p$ -value = 0.30).

Students of semester 4, 6, 8 and 10 were included in this study. Among Facebook addicted group of 83 participants, 32.5% students belong to semester 4. It was found that there is no significant association of semesters with the Facebook addiction ( $p$ -value = 0.386).

Among 150 students, 56.7% (85) students have GPA below 3 and among these 85 students, 68 (80%) students were Facebook addicted. 33 (22%) students got 3 GPA and 32 (21.3%) students got GPA above 3. Among students who got 3 GPA, 24 (72.73%) students were not addicted to Facebook. Among students who got GPA above 3, 26 (81.25%) students were not addicted to Facebook. Among 83 Facebook addicted students, 81.9% participants had GPA below 3. There was a significant association between Facebook addiction and academic performance of students according to their GPA ( $p$ -value = 0.00).

85 students had average IQ; among them, 40 (47.06%) students were Facebook addicted, whereas, 45 (52.94%) students were not addicted. 44 students had below average IQ and among them, 34 (77.27%) students were Facebook addicted, whereas, 10 (22.73%) students were not addicted. 6 students had low IQ, and all (100%) of them were Facebook addicted. Among 83 Facebook addicted students, 80 students were lie in the range of average to low IQ level and that accounts 96.4% of Facebook addicted participants. There was a significant association of Facebook addiction with IQ level ( $p$ -value = 0.00).

All students had low or normal level of self-esteem. 84 students had normal level of self-esteem and among them, 59 (70.24%) students were not addicted to Facebook. 66 students had low level of self-esteem and among them, 58 (87.88%) students were addicted to Facebook. These 58 students account 69.9% of Facebook addicted participants. There was a significant association of Facebook addiction with self-esteem level ( $p$ -value = 0.00).



| Table 2: Impact of Facebook Addiction on Different Variables |                      |             |                    |                       |         |
|--|----------------------|-------------|--------------------|-----------------------|---------|
| Characteristics  |                      | n (%)       | Facebook Addiction |                       | P-value |
|  |                      |             | Addicted<br>n (%)  | Not Addicted<br>n (%) |         |
| Gender   | Female               | 127 (84.7%) | 68 (81.9%)         | 59 (88.1%)            | 0.300   |
|  | Male                 | 23 (15.3%)  | 15 (18.1%)         | 8 (11.9%)             |         |
|  | Total                | 150 (100%)  | 83 (100%)          | 67 (100%)             |         |
| Semester   | 10                   | 43 (28.7%)  | 22 (26.5%)         | 21 (31.3%)            | 0.386   |
|  | 8                    | 38 (25.3%)  | 21 (25.3%)         | 17 (25.4%)            |         |
|  | 6                    | 28 (18.7%)  | 13 (15.7%)         | 15 (22.4%)            |         |
|  | 4                    | 41 (27.3%)  | 27 (32.5%)         | 14 (20.9%)            |         |
|  | Total                | 150 (100%)  | 83 (100%)          | 67 (100%)             |         |
| GPA  | Below 3              | 85 (56.7%)  | 68 (81.9%)         | 17 (25.4%)            | 0.000*  |
|  | 3                    | 33 (22.0%)  | 9 (10.8%)          | 24 (35.8%)            |         |
|  | Above 3              | 32 (21.3%)  | 6 (7.2%)           | 26 (38.8%)            |         |
|  | Total                | 150 (100%)  | 83 (100 %)         | 67 (100%)             |         |
| Intelligent Quotient   | Low                  | 6 (4%)      | 6 (7.2%)           | 0 (0%)                | 0.000*  |
|  | Below Average        | 44 (29.3%)  | 34 (41.0%)         | 10 (14.9%)            |         |
|  | Average              | 85 (56.7%)  | 40 (48.2%)         | 45 (67.2%)            |         |
|  | Intelligent          | 12 (8.0%)   | 2 (2.4%)           | 10 (14.9%)            |         |
|  | Superior Intelligent | 3 (2.0%)    | 1 (1.2%)           | 2 (3.0%)              |         |
|  | Total                | 150 (100%)  | 83 (100%)          | 67 (100%)             |         |
| Self-Esteem  | Low                  | 66 (44.0%)  | 58 (69.9%)         | 8 (11.9%)             | 0.000*  |
|  | Normal               | 84 (56.0%)  | 25 (30.1%)         | 59 (88.1%)            |         |
|  | High                 | 0 (0%)      | 0 (0%)             | 0 (0%)                |         |
|  | Total                | 150 (100%)  | 83 (100%)          | 67 (100%)             |         |
| * P-value <0.05  |                      |             |                    |                       |         |

## DISCUSSION

Socializing via Facebook has become a most important part of student's life. Facebook has been used by greater number of school, undergraduate and graduate students on daily basis. This study examined the impact of Facebook addiction on academic performance, IQ level and level of self-esteem among undergraduate students of Physical therapy. In general, from all participants of Facebook users, majority of participants were Facebook addicted (55.33%). Facebook is addictive because it is unpredictable and rewarding. So, we never know when something funny and interesting is going to appear on Facebook. The results of our study revealed statistically significant association of Facebook addiction with academic performance. It was found that about 81.9% participants were Facebook addicted and get GPA below 3. This was also endorsed by a study done by Kirschner PA and Karpinski AC. They concluded that users of Face-

book had low academic performance<sup>19</sup>. Another study was conducted in Pakistan to analyze the impact of internet on the academic performance and social life of university students. They concluded that academic performance can be affected by the duration of use of internet. But if its use was for academic purpose, it may not affect. More internet use decreases the participation of student in social activities<sup>18</sup>. Thuseethan S and Kuhanesan S stated that Facebook addicted students spent more time on it and achieved received medium or low grades<sup>24</sup>.

Pasek et al<sup>26</sup> found no negative relationship between use of Facebook use and academic performance of students and this is not similar to our study. Bosch TE concluded that there are potential positive benefits in teaching and learning from use of Facebook<sup>27</sup>.

A study by Haq A and Chand S found that female

use Facebook for more time than males<sup>25</sup>. Our study also shows higher percentages of female users and Facebook addicted females. Malik S and Khan M<sup>20</sup> stated that Facebook addiction was a significant predictor of low self-esteem and narcissistic behavior in students. We also found significant association between Facebook addiction and low self-esteem.

## CONCLUSION

Frequent use of Facebook in students makes them addicted, that affects their academic performance, IQ level and self-esteem.

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