

## Facebook addiction: its relation with academic performance of University students

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### Abstract

The present study intended to find Facebook addiction and its relation with academic performance of university students from Pakistan. Sample comprised of eighty students (n=80) in total whom are purposefully selected and equally divided according to gender. The universe was public sector higher learning institute named as The Islamia University of Bahawalpur, Pakistan. Cross-sectional survey research design was employed. Data were collected by use of Bergen Facebook addition scale. Data were analyzed from SPSS (21.0), descriptive statistics, correlation and regression analysis were computed to test the hypotheses. Results depict significant negative relationship between Facebook addiction and academic performance of students ( $\beta = -.907$ ,  $t = -4.554$ ). Conclusively, female students consume more time to use Facebook as compare to male students; hence, male students exhibit better academic performance. Limitations and future implications of current study were enclosed.

**Keywords:** *Facebook addiction; Academic performance; Students; Pakistan.*

### 1. Introduction

Facebook has become the essential element of students' daily life due to its social and information based advantages (Alloway et al., 2013; Balci & Golcu, 2013; Bugeja, 2006; Jones & Madden, 2002; Nalwa & Anand, 2003). Students and instructors use social networking sites such as Facebook and LinkedIn for the academic communication (Hew & Cheung, 2012; Paul, Baker & Cochran, 2012). Foregger (2008), Hew and Cheung (2012), identified that students use Facebook to spend their time, to build social relations and for the purpose of entertainment. Rosen, Carrier, and Cheever (2013) revealed that Facebook has become the popular source of gaining and spreading information. Smith (2012) explored that Facebook has one billion users including more than 90% youth in UK and particularly, students are passionately involved in Facebook use (Common Sense Media, 2012; de Boor, Grunwald & Vockley, 2011; Junco, 2011). Dhaha and Igale (2013) revealed that among Facebook users, a large group consists of young people who use Facebook on daily basis. Moreover, Wilson, Fornaiser, and White (2010) also endorsed the same view.

Plenty of studies recognized different motivational factors that associated with excessive use of Facebook, such as loneliness and addiction (Ellison et al., 2007; Saleem, Tufail, Khan, & Ismail, 2015; Song, et al., 2014). Similarly Kraut et al., (2002) found that individuals who are not socially active are more prone to excessive Facebook users. Such individuals satisfy their needs of building relationships and belongingness by using social networking sites excessively (Raacke & Bonds-Raacke, 2008). The internet users, who avoided face-to-face interaction in reality, chose the internet as a functional and rewarding source to fulfill social wants. As a result, Nervousness and anxiety are also predictors of excessive Facebook using (Papacharissi & Rubin, 2000).

There are numerous drawback of Facebook addiction such as Fenichel, (2009), endorsed the view that excessive Facebook usage has negative effects on users. Chao Lin et al. (2012) identified Facebook addiction as the worldwide problem among youth. Excessive use of Facebook enhances the risk of Facebook addiction (Mekinc, Smailbegovic, Kokic, 2013). Various studies conducted related to Facebook addiction asserted that there are many risk factors associated with excessive social sites use among students of higher education. Paul, Baker, and Cochran (2012) stated excessive Facebook use decrease attention of students toward study. Similar study confirms Facebook addiction/internet addiction developed Attention Deficit Hyperactivity Disorder symptoms among higher education students (Tufail, Khan, & Saleem, 2015). Moreover, different studies explored that the students of higher education face higher demands and standards for academic competency that are meet through social sites (Jones, Blacky, Fitzgebon & Chew, 2010). Alloway, Horton, Alloway, and Dawson (2013), explore Facebook addiction is primary concern among college students and young adults.

A plethora of researches illustrate a big debate showing a negative relationship between Facebook addiction and Academic performance (Balci & Gulnar 2009; Chou et al., 2005, Young 2004; Niemz et al. 2005; Bjerregaard, 2010; Junco, 2012; Kirschner & Karpinski, 2010; Rouis, Limayem & Salehi-Sangari, 2011; Stollak, Vandenberg, Burklund, & Weiss, 2011). Kuss and Griffiths (2011) investigated that Facebook addiction negatively impacted on student's social life and academic outcomes. Excessive Facebook use is frequently related to poor academic performance (Khan, 2009). Similarly, various studies proved that the excessive Facebook usage decreased the academic performance of the students (Lenhart, et al., 2010; Tiryakioglu, Erzurum, & Dahlstrom, 2010; Chen & Bryer, 2010; Harzadin, 2012).

Facebook addiction directly affects grade point average (GPA) among college students (Karpinski & Duberstein, 2009; Kirschner & Karpinski, 2010; Karpinski et al., 2013). Facebook addiction brings about students as turn out to be low academic achievers (Eugenia & Wong, 2013). Similarly, Facebook users spent more time online and achieve low grade point average (Karpinski, Kirschner, Ozer, Mellott, & Ochwo, 2013; Ahn, 2011; Pasek, More, & Hargittai, 2009; Nalwa, 2003; Karpinski & Duberstein, 2009).

### ***1.1 Rationale of the study***

Facebook addiction is become a worldwide problem among computer/internet users. Above literature provide evidences in the developed and developing countries ratio of Facebook addiction and its negative consequences rising day by day. The most effected population is Youth and Adolescents and their outcome in the field of education. Recent studies conducted on internet addiction among Pakistani students (Saleem, Tufail, Khan, & Ismail, 2015; Tufail, Khan, & Saleem, 2015) but did not focus on Facebook addiction except study (Zafar, Mahmood, Saleem, & Zakaria, 2015) conducted on college students not higher learning institute students. So, there is dire need to conduct a research on negative impact of Facebook addiction on academic performance among Pakistani students where base line studies desirable.

## ***1.2 Objectives of research***

1. To investigate impact of Facebook addiction on academic achievement.
2. To explore correlation among salience, tolerance, mood modification, relapse, withdrawal, conflict and Academic performance of students.
3. To compare gender differences in terms of Facebook addiction and academic achievement of students.

## ***1.3 Hypotheses***

*H<sub>1</sub>*. The excessive Facebook use decreases the academic performance of the university students.

*H<sub>2</sub>*. There is strong correlation exists among salience, tolerance, mood modification, relapse, withdrawal, conflict and Academic performance of students.

*H<sub>3</sub>*. Female students have more Facebook addict and lower academic performance as compared to male students.

## **2. Method**

### ***2.1 Participants***

Cross-sectional survey research design was employed and simple randomization used to collect the sample. The sample was comprised of 80 (N=80) postgraduate students from The Islamia University, Pakistan. A-priori sample size was calculated, minimum required sample was 66 was obtained (Soper, 2015). Fourteen respondents were taken additionally from University campus that was seven male and seven female to consider the sufficiency of sample size.

### ***2.2 Inclusion and Exclusion Criteria***

Only post graduate students of computer science department were included, whose Facebook use on daily basis, because they have more accessibility of internet and nature of study is related to computer. Students who are non/less user of Facebook were excluded.

### ***2.3 Procedure***

The questionnaires were administered on willing students whom are fulfilling the inclusion criteria. Students were chosen on the basis of their availability and interest. Informed consent was sought from willing participants. The participants were instructed how to fill questionnaires and guide about study perspective and assured their responses privacy along with the right to leave the questionnaire anytime without penalty. Facebook addiction Scale offered and taken responses after that analyzed through SPSS. On the basis of findings table were made and interpreted results, finally discussion was done and further limitation discussed.

### ***2.4 Measures and Covariates***

#### **2.4.1 The Bergen Facebook addiction scale**

The Bergen Facebook addiction Scale (BFAS) developed validated by © Andreassen, Torsheim, Brunborg, & Pallesen, (2012) was used to assess an individual's level of Facebook addiction. The BFAS is an 18 item self-report inventory, each item is scored on a 5-point rating options from (1= Very rarely to 5= Very often). Scale measure six core features of addiction: salience, mood modification, tolerance, withdrawal, conflict, and relapse. Higher scores indicate greater Facebook addiction. It has good reliability .83 for target population.

## 2.5 Statistical Analyses

Statistical analyses were performed by using Statistical Package for Social Sciences (SPSS, 21.0.). The data were analyzed to employ descriptive statistics, mean, standard deviation (SD), regression, and correlation to draw the results.

## 2.6 Precision and Statistical power level

A-priori sample size was calculated for multiple Regression from online, at the anticipated effect size  $f^2 = 0.15$ , desired statistical power level 0.80, number of predictors 2, probability level 0.05. Finally, minimum required sample size 66 is obtained (Soper, 2015). Seven respondents were taken additionally from each gender to minimize the biasness of respondents.

## 2.7 Operational Definition of Variables

### 2.7.1 Facebook addiction

Facebook addiction carries the meaning of excessive and careless daily use of Facebook more than five hours (Karaiskos, Tzavellas, Balta, & Paparrigopoulos, 2010).

## 2.8 Ethical Considerations

Permission to use the scale has been taken from the respective authors. A departmental permission has also been taken from where the data was collected through the participants.

Informed consent taken from all respondents and debriefing the participants regarding purpose and implication of research. All participants have filled questionnaires willingly; forced choice not applied on any respondents and not provides any reward or financial assistance to the participants.

## 3. Results

For hypotheses testing above mentioned statistical techniques were employed to tabulate the results; table 1 based on descriptive statistics, table 2 is based on regression analysis, and table 3 comprised of correlation analysis.

Table 1

*Descriptive Statistics of all variables*

All variables Scale	Male Students				Female Students			
	Min	Max	Mean	Std. Dev	Min	Max	Mean	Std. Dev
Age	22	32	23.83	1.723	23	27	24.85	1.027
Salience	03	15	8.55	2.407	03	14	8.73	2.511
Tolerance	04	14	8.78	2.684	05	15	10.45	2.320
Mod modification	05	14	9.28	2.926	03	14	10.48	2.727
Relapse	03	15	9.23	2.869	03	14	10.30	2.503

Withdrawal	03	14	9.03	2.506	05	15	10.35	2.119
Conflict	04	15	9.45	3.250	03	15	10.68	2.654
Total Facebook	29	72	54.30	8.973	31	74	60.98	10.159
CGPA	2.1	3.7	2.733	.3902	2.1	3.5	2.558	.4060

Table 1 shows descriptive statistics of all variables. Mean age of male 23 and female was 24. Furthermore, in the scales of salience, tolerance, mood modification, relapse, withdrawal, conflict female mean score is grater as compare to male 8.73; 8.55, 10.45; 8.78, 10.48; 9.28 respectively.

Table 2

*Regression Table of variables and academic performance*

Variables	Std. Error	Beta	t	Sig.
Salience	.013	.099	1.264	.210
Tolerance	.014	-.115	-1.267	.209
Relapse	.014	.039	.427	.671
Withdrawal	.012	.019	.271	.787
Conflict	.011	.008	.091	.928
Total Facebook	.008	-.907	-4.554	.000

Table 2 shows regression coefficient of all variables. Salience scale beta value is .099 shows significant relationship with academic performance  $\alpha \leq \beta$  and t score 1.264. In Tolerance scale beta value is -.115 shows negative relationship and relapse scale beta value is .039 and t value .427 shows positive relationship with academic performance. Withdrawal and conflict scales beta values are .019 and .008 with t scores .271, .091 respectively shows significant relationship with academic performance as  $\alpha \leq \beta$ . Furthermore, Facebook questionnaire beta value is -.907 and t score -4.554 shows negative relationship of Facebook with academic performance. Increase Facebook usage decrease academic performance.

Table 3

*Correlation of all variables*

Variables	Salience	Tolerance	Mood modification	Relapse	Withdrawal	Conflict	Overall Facebook	Academic Performance
Salience	1	.509**	.229*	.304**	.088	.065	.563**	-.456**
Sig. (2-tailed)		.000	.041	.006	.436	.567	.000	.000
Tolerance	.509**	1	.342**	.373**	.321**	.316**	.753**	-.724**
Sig. (2-tailed)	.000		.002	.001	.004	.004	.000	.000
Mood modification	.229*	.342**	1	.406**	.137	.203	.632**	-.570**
Sig. (2-tailed)	.041	.002		.000	.224	.071	.000	.000
Relapse	.304**	.373**	.406**	1	.234*	.291**	.699**	-.601**
Sig. (2-tailed)	.006	.001	.000		.037	.009	.000	.000
Withdrawal	.088	.321**	.137	.234*	1	.241*	.517**	-.467**
Sig. (2-tailed)	.436	.004	.224	.037		.031	.000	.000
Conflict	.065	.316**	.203	.291**	.241*	1	.590**	-.542**
Sig. (2-tailed)	.567	.004	.071	.009	.031		.000	.000
Overall Facebook	.563**	.753**	.632**	.699**	.517**	.590**	1	-.896**

Overall	.000	.000	.000	.000	.000	.000	.000	.000
Facebook								
Sig. (2-tailed)								
Academic	-.456**	-.724**	-.570**	-.601**	-.467**	-.542**	-.896**	1
Performance								
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	

Note: \*\*correlation is significant at the 0.01 level (2-tailed.)

Table 3 shows correlation of all variables. Result shows highly significant relationship between Facebook and academic performance, in salience subscale value is  $-.456^{**}$  shows significant relationship but negative, Facebook usage increases academic performance decreases. Similarly in tolerance scale value is  $-.724^{**}$  mood modification  $-.570^{**}$  relapse, withdrawal, conflict values are  $-.601^{**}$ ,  $-.467^{**}$ ,  $-.542^{**}$ , respectively shows significant negative relationship, Facebook usage increases as a result academic performance decreases. The overall value of Facebook is  $-.896^{**}$ , shows highly significant correlation between Facebook and academic performance.

#### 4. Discussion

The study was conducted at The Islamia University (Rahim Yar Khan Campus), and purpose of the study was to find the relation of Facebook addiction and its impact on academic performance of the university students. According to the First hypothesis, excessive Facebook use has negative impact on academic performance. Table 2 shows the negative correlation of Facebook excessive use and academic performance. According to the results of present studies, In Tolerance scale beta value is  $-.115$  shows negative relationship that academic performance increase and tolerance score decreases. Same as in relapse scale beta value is  $.039$  and t value  $.427$  shows positive relationship between academic performance and relapse sub scale of Facebook addiction. Similarly in scale withdrawal and conflict beta values are  $.019$  and  $.008$  with t scores  $.271$ ,  $.091$  respectively shows significant relationship with academic performance as  $\alpha \leq \beta$ . Furthermore, Facebook questionnaire beta value is  $-.907$  and t score  $-4.554$  shows negative relationship of Facebook with academic performance. Increase Facebook usage decrease academic performance. A study conducted by Junco and Cotton, (2012) showed the negative relation of Facebook addiction and academic performance and viewed that the excessive Facebook use negatively effects the academic performance. Wilson, Fornaiser, and White (2010) also showed the same results of the significant. Meanwhile a contrast study proved that there is no significant relationship (correlation =  $-0.017$ ) found between Facebook addiction and academic performance (Zafar, Mahmood, Saleem, & Zakaria, 2015).

According to second hypothesis, Facebook addiction and academic performance is significantly correlated and Table 3 shows correlation of all variables. Result shows highly significant relationship between Facebook and academic performance, in salience subscale value is  $-.456^{**}$  shows significant relationship but negative, Facebook usage increases academic performance decreases. Similarly in tolerance scale value is  $-.724^{**}$  shows highly correlation between tolerance and academic performance, students. Furthermore in mood modification  $-.570^{**}$  value shows academic performance decreases when Facebook usage increases, same as in subscales of relapse, withdrawal, conflict values are  $-.601^{**}$ ,  $-.467^{**}$ ,  $-.542^{**}$ , respectively shows significant negative relationship, Facebook usage increases as a result academic performance decreases. The overall value of Facebook is  $-.896^{**}$ , shows highly significant correlation between Facebook and academic performance. Ode, (2014) also endorsed the view that excessive Facebook use and academic performance are significantly related. Yet, another study conducted by Kalra and Manani (2013)

showed totally contrary results and stated that excessive Facebook use do not affect the academic performance of the students due to their time management of Facebook use and study timing.

According to the third hypothesis, female are more prone to Facebook excessive use than male students and the results showed, Total score in Facebook questionnaire female mean also greater 60.98 as compare to male students 54.30. Similarly CGPA is greater of male students 2.733 as compare to female students 2.558. A survey conducted by Çam and İşbulan (2012) showed opposite results to the present study and showed that male are more addicted to Facebook than female. While Dominick, (1999), Bortree (2005), and Trammell and Keshelashvili (2005) showed that the female students have more tendency to Facebook addiction than male students.

#### **4.1 Conclusion**

There is significant negative relationship between Facebook addiction and academic performance. Likewise subscales of salience, tolerance, mood modification, relapse, withdrawal, conflict highly negatively correlated with academic performance. Furthermore, female students have more risk to Facebook addiction as compare to male students.

#### **5. Limitations**

There are some limitations of the study. The study was limited to Rahim Yar Khan City and other cities were excluded while data collection. The study was conducted only on the students of higher education (University) but college students were excluded. Sample of the study was not surplus; it should be taken students from rest of the cities or provinces to make it more generalizable.

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