

**Impact of Daily and Weekly Time Patterns on Perceived Problematic Facebook Usage Cross-Sectional Survey of University Students in Lahore**

**\*Muhammad Shabbir Sarwar, PhD**

Institute of Communication Studies, University of the Punjab, Lahore,  
Pakistan

**Mudassar Hussain**

Institute of Communication Studies, University of the Punjab, Lahore,  
Pakistan

**Khuram Shahzad**

Public Relations Officer, University of the Punjab, Lahore, Pakistan

The time patterns for using Facebook among youth are different. The daily and weekly time patterns can tell different usage patterns. There is a concern shown by scholars from communication psychology that though Facebook is one of the most popular social networking sites among youth, however, it can sometimes become problematic. To verify this argument carefully in academic scholarship, the current study contributes by researching the interaction effect of the daily and the weekly time patterns on the perceived problematic Facebook use. The university students (N = 1188) in Lahore, are selected through convenience sampling using traditional paper and pencil survey. The objectives of the study are to explain whether the time (in minutes and hours) spent daily and weekly on Facebook make any difference in the reported scores of Problematic Facebook Use (PFU) among university students in Lahore. The study utilizes the quantitative approach of the cross-sectional survey method and selects respondents by using the convenience sampling technique. The scales for measuring daily and weekly time patterns for Facebook use are adopted from Hussain and Saleem (2016). The scale for

---

\* Correspondence concerning this article should be addressed to Muhammad Shabbir Sarwar (PhD), Mudassar Hussain, and Khuram Shahzad, Public Relations Officer, University of the Punjab, Lahore, Pakistan, shabbir.ics@pu.edu.pk, students

measuring PFU is adopted from Dhaha and Igale (2014). The two-way between-groups ANOVA shows that the daily time spent on Facebook make difference with a small effect ( $\eta^2=.05$ ) in the PFU scores, besides, the weekly time patterns show a significant difference ( $\eta^2=.01$ ) for the problematic Facebook use. Further, the Post Hoc comparisons show that there is a gradual increase in problematic Facebook use among university who use it for less time in a week to daily use. Those who use Facebook for less than half an hour have reported that Facebook is more problematic for them. The study has implications for students to check Facebook using habits after half an hour in a particular day by using a timer. The study has also implications for the mentorship roles of parents and teachers.

*Keywords:* Facebook use, daily time, weekly time, problematic use, university students

Social networking sites are web-based services used to build a profile and connections; these social networks are attracting the attention of academic circles and businesses alike. The years from 97 and 2006 are considered the booming years for the emergence of social networks; the platforms which sprang up were “Six Degrees”, “Live Journal”, “Asian Revenue”, “Black Planet”, “Lunar Storm”, “MiGente”, Friendster”, “MySpace”, “Yahoo!360” “Twitter” and the “Facebook” (Boyd & Ellison, 2007).

Teens and young adults were found to be using online communication methods and Facebook turned into an inescapable phenomenon for college students; through an online survey, it was found in the previous research that this particular social networking site was used for social activity or the social interaction motives, for example, communicating and interacting with friends and looking at the profiles of close friends (Bumgarner, 2007).

Facebook is a structured social networking site, research was done among undergraduate Facebook users, and narcissism was found to be the predictor of high levels of social activity on Facebook and it was concluded in the previous research that the undergraduates portray

themselves in a narcissist way on Facebook and likewise they behave narcissistically in their real-life (Buffardi & Campbell, 2008).

The research about Facebook was carried out in the social sciences disciplines; Wilson et al. (2012) analyzed 412 articles published in social sciences discipline journals and found that research about Facebook was carried out mainly focusing on the descriptive analysis of users of Facebook or their Facebook profiles, motivations for using Facebook, presentation of identity on Facebook, Facebook use for social interaction and the privacy and information disclosure on Facebook.

In the online environment enabled by the technology of the internet, youth are giving attention and time to the social networking site i.e. Facebook. In the previous research, no significant difference was found in demographics for Facebook addiction nor the gender was found to show any change in the variable of Facebook addiction among Turkish college students (Koc & Gulyagci, 2013). The matter of fact is that the 24/7 availability of the internet exacerbates the pressure to participate on an ongoing basis and the teenagers have been using the digital media with an emphasis on social media, however, today the youth are not taking advantage of the potential positive implications of the digital media, in this context Facebook is also not being used for educational purposes although it was started as a platform to facilitate teachers and students (James, 2014).

In Pakistan, there are 37 million mobile broadband users with 3G/4G technology (“Social media accounts in Pakistan hike up to 44 million”, 2017). The Internet is made to make people happy and to know their world (Cassidy, 2006). This Internet connectivity is conducive for increased use of Facebook among youth and university students. Facebook is also accessed by youth via a virtual private network (VPN) and other proxy servers like V-Tunnel (Walsh, 2010). These aforementioned factors related to the expansion of technology have resulted in increased use of Facebook with the help of increasing use of the smartphone.

The previous research has shown that youth are utilizing Facebook for different intervals of time. In an international study, 63% of Malaysian undergraduates had reported using Facebook more than once

on a particular day (Shahnaz & Wok, 2011) which means that the frequency of Facebook access varies among university students.

Facebook now is a technology company that owns WhatsApp and Instagram (Parsons, 2019). Scholars from communication studies accept Facebook as a mass communication medium because in their opinion it provides people with much information to communicate with their social contacts (Balci & Golcu, 2013).

The etiology of negative effects of Facebook/Facebook addiction/passive Facebook use or problematic Facebook use (PFU) is also conceptualized differently in the previous literature, however, the six-factor component model of addiction consisting of salience, mood modification, tolerance, withdrawal, relapse, and conflict (Griffiths, 2005) constitute the conceptualization for Problematic Facebook Use (PFU) for the present study. The factors which are identified by Griffiths are salience, mood modification, relapse, conflict, withdrawal, and tolerance. The addiction model presented by Griffiths (2005) with the bio-psycho-social framework can also be applied to the technology of Facebook.

Facebook is the most popular social networking site among Muslim youth since it is a great way to catch up with old friends, get information, and interact with others and in this context, in previous research, the characteristics of Facebook users are investigated among undergraduates of International Islamic University Malaysia and it was reported that “63% users use Facebook more than once on a particular day, 74% have accessed it in their rooms, whereas, 76% have accessed at night time” (Shahnaz & Wok, 2011, p.8). It means that there are different frequencies for Facebook use at different intervals in a particular day and in different sections of the week. Balci and Golcu (2013) reported that 53% of university students had used Facebook at dormitory, 54% had used it on computer, 50% had been using Facebook for 3-4 years, 33% had used Facebook daily, 27% had used it 4-5 days in a week and 26% had used for 2-3 days in a week.

Ellison et al. (2007) had examined the relationship between Facebook use and the formation and maintenance of social capital and the strongest relationship was found with bridging social capital, also, the

study had discussed the time patterns and it was reported that the students had spent 10-60 minutes on Facebook daily. Ellison et al. (2007) had also seen the impact of Facebook use on the psychological wellbeing of the students. It was reported that Facebook use was good for those who had low self-esteem or those who were less satisfied with their life. Ellison et al. (2007) had researched the members and non-members of Facebook but did not find the difference which the time patterns make for the psychological wellbeing of students.

Ellison et al. (2007) had researched the small sample but in a more comprehensive study on college students Junco (2012) had researched the associations of the frequency of Facebook use, participation in Facebook activities, and student engagement, and it was found that Facebook use significantly but negatively had predicted student engagement, however, had positively predicted the co-curricular activities. The frequency of access to Facebook was found to be 5.75 times daily (Junco, 2012).

Social networking sites (SNSs) have become new phenomena in social communication and interaction patterns which have a profound impact on the way people communicate and connect. Lee et al. (2012) tested the advanced cognitive-behavioral model of generalized problematic Internet use (GPIU) in the context of Facebook use. They found that a preference for online social interaction and use of Facebook for mood regulation had significantly explained the deficient self-regulation for Facebook use; in addition, the deficient self-regulation, in turn, had shown great influence on and had led to negative outcomes associating with the problematic Facebook use.

Balakrishnan and Shamim (2013) had explored the Facebook usage patterns, motivations, and psychological/behavioral factors affecting the users of Facebook. The factor analysis yielded five motives to use Facebook which were social networking, psychological benefits, entertainment, self-presentation, and skill enhancement. As for behavioral symptoms, salience, loss of control, withdrawal, relapse, and reinstatement had emerged as the four main symptoms. The frequency of access between 2 to 5 times daily was found to be 53% in Malaysians and

35.9% Malaysians had used it for more than 60 minutes (Balakrishnan & Shamim, 2013).

The research about Facebook use was also conducted among Turkish college-going students (Koc & Gulyagci, 2013) and in that particular research, the behavioral factors of users were researched along with the demographic profile and the psychological wellbeing variables. In that particular study, the weekly time commitment had positively predicted Facebook addiction. Koc and Gulgagci (2013) had used the Facebook Addiction Scale (FAS) and Facebook use was asked in terms of the experience of Facebook use, the frequency for Facebook use, the duration for Facebook use, and the place of Facebook use. The time for Facebook use was found to be varied from ten minutes to seventy hours and fifteen minutes per week. The weekly time commitment for Facebook use was significantly associated with Facebook addiction. The scale used by Koc and Gulyagci (2013) for measuring the weekly time commitment was not sophisticated which lack confidence in generalization, further it was also not explained which time factor is associated significantly. Further, the difference in time patterns was also not explained.

In a later study, Hong et al. (2014) had identified the role of psychological traits of university students in Facebook addiction and Facebook usage and had explored the correlation between Facebook usage and Facebook addiction and it was found that self-inferiority had significantly predicted Facebook usage; and having a depressive character and Facebook usage also had significantly predicted Facebook addiction. However, Hong et al. (2014) had not investigated the relationship between time spent on Facebook and Facebook addiction.

Ryan et al. (2014) had built the argument related to addiction to social networking sites among individuals and for this, they had researched the previous literature related to motivations for Facebook use and their link to Facebook addiction, and it was found that Facebook use for relationship maintenance, passing time, entertainment and companionship was related with addiction to Facebook (FB) through use that was habitual, excessive or motivated by a desire to mood alteration. Ryan et al. (2014) had highlighted the fact that more rigorous attempts

are needed in academic research to conclude Facebook is addictive. Facebook can be problematic however Ryan et al. (2014) ignore the fact that time is the important factor along with the motivations or gratifications.

In a different study done in Pakistan, Hussain and Saleem (2016) had analyzed the associations of the social demographics, motives, activity on Facebook, and the personality traits with the passive Facebook usage (or problematic Facebook use); these scholars had reported the time patterns for Facebook use like 50% had used Facebook for less than thirty minutes; however, the scholars had not researched the difference which the time patterns made in the views about problematic Facebook use among university students. These scholars had made scales for problematic Facebook use but did not research the associations of the time patterns with the problematic Facebook use.

Facebook addiction is not recognized as a diagnosable disorder but it was reported in the previous literature that Facebook can be problematic (Marino et al., 2018). Marino et al. (2018) had done a meta-analysis on problematic Facebook use and had found that problematic Facebook use was positively linked to time spent online however the current study argues that time spent online is different from daily and weekly time spent for Facebook use.

### **Current Study**

In the previous research, it was emphasized to investigate the relationship between time spent on Facebook and Facebook addiction (Hong et al., 2014). Facebook addiction was positively correlated with narcissism and self-esteem among Pakistanis and no significant gender differences were found (Malik & Khan, 2012) but the study had not discussed the time patterns and the difference they make in the views about the problematic Facebook use. The study by Hussain and Saleem (2016) had also not researched the associations of the daily and weekly time spent on Facebook and their associations with the problematic Facebook use. The previous research has highlighted the fact that there is a scarcity of literature related to problematic Facebook use research from Asia (Marino et al., 2018) and Marino et al. (2018) had only cited one

study in their meta-analysis from Pakistan. The current study is aimed to bridge these gaps. In the light of the above-mentioned facts and figures and the research, Facebook has become a global phenomenon. The academicians and marketing agencies are interested in how university students are using Facebook. In this way, the effects of this global phenomenon are also felt in the context of Pakistani society. It is observed that university students in Pakistan are spending considerable time using Facebook. This time may lead to the problematic Facebook use. It is therefore aimed to explore the time patterns for Facebook usage and the difference they make in the views of university students in Lahore about problematic Facebook usage. The time may be the daily time in minutes and hours and the occasional or frequent use within a weekly. Therefore, the specific objectives of the research were to explain the difference in these daily and weekly time patterns for the problematic Facebook usage among university students in Lahore.

### **Theoretical Framework**

The displacement hypothesis posits that the harms of technology are directly proportional to exposure (Neuman, 1988). According to Goldilocks Hypothesis (Przybylski, 2014), the technology used at moderate levels (i.e. <2-3 hrs. per day) is not intrinsically harmful. Therefore, the objectives of the research are to explain whether the time patterns e.g. daily time spent with Facebook in minutes and hours and the weekly time consumption in terms of access in different days make any difference in the scores of problematic Facebook use (PFU) among university students.

**H<sub>1</sub>** The daily use of Facebook for more than 3 hours is likely to be problematic among students.

**RQ<sub>1</sub>** Do patterns for daily time spent in minutes and hours for Facebook use make any difference in the scores of Problematic Facebook Use (PFU)?

**H<sub>2</sub>** The daily use in comparison to the occasional use of Facebook is more likely to be problematic.

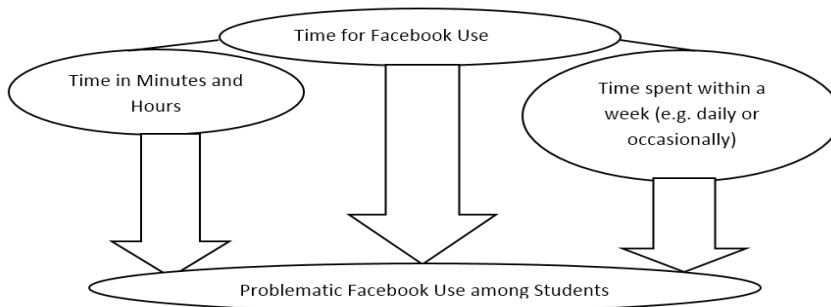


**RQ<sub>2</sub>** Do weekly time consumption patterns for Facebook use make any difference in scores of Problematic Facebook Use (PFU)?

**RQ<sub>3</sub>** Is there an interaction effect of daily and weekly time patterns for Facebook usage on the scores of Problematic Facebook usage?

*Figure 1*

*Proposed Model for Impact of Time Patterns on Problematic Facebook Usage*



## Method

The quantitative cross-sectional survey research design was used. The population was university students (N= 1188) who were Facebook users. They were selected through convenience sampling technique from the University of the Punjab (PU) and the University of Central Punjab (UCP) in Lahore. The rationale for the selection of these two universities was that the students from different parts of the country come to the educational hub of Lahore to get education in these two universities. These two universities were selected to ensure the diversity of the population of university students who are digitally privileged and have access to the internet at their homes, educational institutes, corridors, and hostels. The prior permission was taken for the collection of data from the respective head of the departments of Mass Communication, Cultural Studies, and Political Sciences departments of these selected universities. The Facebook users for the study were between the ages of <18<30.

The independent variables for the study were the daily time for Facebook use and the weekly time for Facebook use. The dependent variable for the study was problematic Facebook use.

The scales for measuring time patterns were adopted from previous research done by Hussain and Saleem (2016). First independent variable of daily Time in minutes and hours was evaluated on a 5-point nominal scale with responses of “less than thirty minutes;” “thirty to sixty minutes;” “two hours;” “more than two hours;” and “more than three hours”. The checkboxes were provided at the left for the respondents to select the most appropriate options for time spent using Facebook.

Second independent variable of weekly time assessment was measured with a 4-point nominal scale with responses of “once in a week;” “twice in a week;” “after two days’ interval” and “almost every day”.

The dependent variable of Problematic Facebook Use (PFU) was measured on the proposed twelve items. The items were extended from the Facebook addiction scale used by Dhaha and Igale (2014). These items include: “I notice that Facebook has become a part of my daily routine;” “My attention is diverted from other tasks while using Facebook;” “I think about Facebook when I am not using it;” “Before I have to do something, I will check my Facebook to see if there is new information;” “Facebook is made to enhance positive mood;” “I think life without Facebook will be joyless;” “I notice that I spend more time on Facebook than before;” “I feel an urge to use Facebook more and more;” “I use Facebook more and more in order to get the same pleasure;” “Facebook is uncontrollable;” “I try to reduce the time for using Facebook;” and “I have happened to fail to control my Facebook routine”. The reliability of the proposed scale is ranged between .894. This is a good level of internal consistency in light of recommendations provided by (Hair Jr. et al., 2014).

Statistical package for social sciences version 21 is used. The two-way between-groups ANOVA is applied to address the hypotheses and the research questions. The eta squared values are determined. The recommendations of small effect (.01), medium effect (.06), and the large effect (.14) (Cohen, 1988) are followed to explain the effect size of time patterns in the scores of PFU. The assumption of homogeneity of variance checked assured  $p=.912$ ,  $p>.05$  (Pallant, 2007).

## Results

The descriptive statistics about the scale are presented in Table 1. Then the difference for time consumption patterns is explained for the problematic Facebook usage.

Table 1  
*Problematic Facebook Usage Scale*

<i>Item</i>	<i>M</i>	<i>SD</i>
I notice that Facebook has become a part of my daily routine	3.23	1.08
My attention is diverted from other tasks while using Facebook	3.04	1.22
I think about Facebook when I am not using it	3.16	1.16
Before I have to do something, I will check my Facebook to see if there is new information	3.08	1.15
Facebook is made to enhance positive mood	3.22	1.14
I think life without Facebook will be joyless	3.19	1.14
I notice that I spend more time on Facebook than before	3.11	1.14
I feel an urge to use Facebook more and more	3.07	1.09
I use Facebook more and more in order to get the same pleasure	3.05	1.15
Facebook is uncontrollable	3.02	1.23
I try to reduce the time for using Facebook	3.14	1.21
I have happened to fail to control my Facebook routine	2.98	1.19

Table 1 presents that all the items have a mean score more than or equal to 3 except for the item “I have happened to fail to control my Facebook routine.” In the current study, the students have reported that Facebook has become a part of their daily routine.

Dependent variable: problematic Facebook use

Table 2  
*Difference in Daily and Weekly Time Patterns for Problematic Facebook Usage*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	8059.611 <sup>a</sup>	17	474.095	6.872	.000	.091
Intercept	469888.956	1	469888.956	6810.722	.000	.853
Weekly Facebook Usage	757.295	3	252.432	3.659	.012	.009
Daily Facebook Usage	4211.584	4	1052.896	15.261	.000	.050
Weekly Facebook Usage * Daily Facebook Usage	2319.546	10	231.955	3.362	.000	.028
Error	80721.268	1170	68.993			
Total	1738770.000	1188				
Corrected Total	88780.879	1187				

a. R Squared = .091 (Adjusted R Squared = .078)

b. Dependent Variable: Problematic Facebook Usage

All the students have used Facebook, but, 68% of them have used Facebook almost every day in a week. The time spent by them in minutes and hours is >3hrs, <30 minutes and 59% of the respondents have used Facebook for >30 minutes. A two-way between-groups analysis of variance is conducted to explore the impact of daily time patterns for Facebook usage and weekly time patterns for Facebook usage on problematic Facebook usage. Subjects are divided into nine (09) groups according to the time patterns they utilize for Facebook use (Group 1:

almost every day; Group 2: twice in a week; Group 3: after two days interval; Group 4: once in a week; Group 5: less than thirty minutes; Group 6: thirty to sixty minutes; Group 7: two hours; Group 8: more than two hours; Group 9: more than three hours). The interaction effect between weekly and daily time patterns for Facebook usage is found to be statistically significant,  $F(10, 1170) = 3.36, p = .000$ . There is a statistically significant main effect for daily time patterns for Facebook usage,  $F(4, 1170) = 15.26, p = .000$ , and the effect size is small (partial eta squared = .05). There is also a statistically significant main effect for weekly time patterns for Facebook usage,  $F(3, 1170) = 3.66, p = .01$ , however, the effect size is marginal (partial eta squared = .009).

Table 3

*Post-hoc Comparisons using Tukey HSD*

Daily Time for Facebook Usage	N	Subset		
		1	2	3
two hours	78	31.9231		
thirty to sixty minutes	222		36.2973	
more than three hours	486		37.0370	
more than two hours	222		37.4324	
less than thirty minutes	180			41.2000
Sig.		1.000	.716	1.000

Tukey HSD<sup>a,b,c</sup>

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square (Error) = 68.993.

a. Uses Harmonic Mean Sample Size = 169.821.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

d. Dependent Variable: Problematic Facebook Usage

Table 3 shows results generated through Tukey HSD test for post-hoc comparisons and Table 3 indicates that the group of university students who utilize Facebook for less than 30 minutes ( $M = 31.92$ ) are different from the group of university students who utilize Facebook for two hours ( $M = 41.20$ ).

*Figure 2.*

Interaction Effect of Daily and Weekly Time on Problematic Facebook Usage

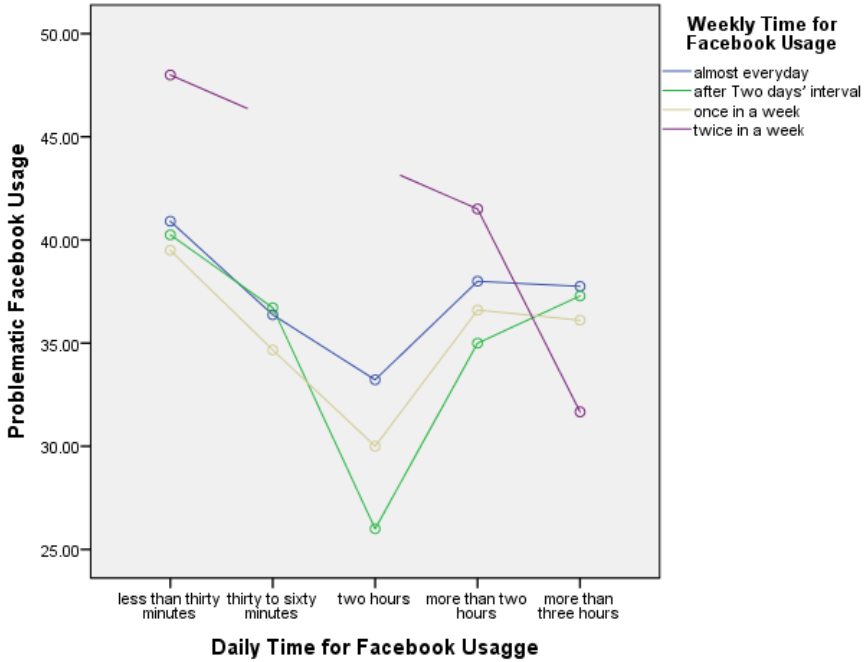


Figure 2 shows that there is a mean difference between the students who utilize Facebook for more than three hours is different from those group of university students who utilize Facebook for less than half an hour or forty minutes which implies that even students who utilize the Facebook for less than half an hour believe that Facebook is problematic. This means that Facebook is getting less popular among university students in Lahore.

### Discussion

The frequent users or the active users in terms of their Facebook use in Pakistan are those university students who have used it daily for less than thirty minutes. Those students who utilize Facebook for less than an hour are of the opinion that Facebook is problematic. The

students who are utilizing Facebook for two hours are of the opinion that Facebook is less problematic for them.

According to Griffiths (2012), salience is when a substance (in the present study Facebook) becomes the most important activity and dominates the feelings and behavior of its users. Mood modification through a substance (in our case Facebook) is the mood improvement for subjective experience by using the substance. Tolerance is the increasing activity of substance (in the present study Facebook) to have the prior effects. The withdrawal effect is not feeling pleasant when the substance (in the present study Facebook) activities are reduced. The relapse is the returning to earlier patterns of substance (in the present study Facebook) activity after moderation or self-control and the conflict is the tension in interpersonal relationships resulting from substance use (in the present study Facebook use). The current study finds that the university students in Lahore believe that Facebook is made to enhance positive mood. They think that life without it will be joyless. They have reported thinking about using Facebook when they are not using it. They have noticed that they have spent more time using Facebook than before. They have happened to seek Facebook for new information before they do anything and this tendency has urged them more and more for using this social networking site. They have tried to reduce their time for such use. They are also of the opinion that Facebook is uncontrollable.

Facebook is a web-based service for building a personal profile. This social networking site is a source for creating connections among individuals for group creation. Facebook has multiple features of liking, sharing, and commenting which also make this site more popular among students because of its navigable features. In this way this social networking site is university students' favorite because it is user-friendly with customizable and navigate-able features. Hussain and Saleem (2016) have argued that university students in Pakistan have gratified their social interactive, business, educational, and entertainment-related needs. The claims before labeling Facebook a problematic social networking site need careful research therefore the current endeavor is made. Hussain and Saleem had not discussed the difference in time patterns which make difference in the scores of problematic Facebook usage. In the present

study, the university students in Lahore who are in the category of young adults and adults (the majority between ages of 18 and 30) are utilizing Facebook. All the students are found to be using Facebook, however, most of the university students are found to be using Facebook on daily basis with a percentage of 68%.

The current study extends the work of Marino et al. (2018) who had found that problematic Facebook usage (PFU) was positively linked to time spent online. Marino et al. (2018) did not discuss the daily and weekly time commitment for Facebook use and the difference which they make in the problematic Facebook use. But in a previous study by Koc and Gulyagsi (2013), the weekly time commitment had positively predicted Facebook addiction. In the present study, a more rigorous approach is used by classifying time into daily and weekly time commitment for Facebook use. The present study, is in affirmation with the previous study conducted by Koc and Gulyagsi (2013) because the current study has found the daily time commitment in minutes and hours which make a significant difference with small effects on the problematic Facebook usage among university students in Lahore city of Pakistan.

## **Conclusion**

Facebook is found to be a part of the daily routine of university students. They are using it to modify their mood. They are also of the opinion that life without Facebook is joyless. They think about using Facebook when they are not using it. The university students are also of the opinion that they have been using Facebook more than before. They wait for the notifications and this leads them to more time consumption for Facebook usage. They have tried to minimize their Facebook use because they think that Facebook may become uncontrollable.

The above-mentioned factors are in accordance with the addiction model of Griffiths (2005). Griffiths has seen the problematic Facebook usage into an addiction framework. The Facebook addiction is seen in bio-psycho-social framework. But the current study argues that problematic Facebook use is the right term to explain the negative effects of Facebook within the communicative framework. Therefore, it is proposed that the negative effects of Facebook should be seen in the



communicative-psycho-social framework because Facebook is also used for social interaction motives and enhancing the social capital. Therefore, calling Facebook addiction requires careful measures. Time is an important factor that cannot be ignored.

A small effect is found of daily time patterns for Facebook use in minutes and hours on the problematic Facebook use among university students. A large difference in the problematic Facebook use is found for the students who utilize Facebook for less than an hour and those who utilize Facebook for more than two hours. In this way, university students who are spending less than half an hour are highly of the opinion that Facebook is problematic.

### **Recommendations**

The study recommends students to check their time for Facebook use after half an hour because then they can drift in and have the chance of losing control over Facebook use. For this, the students will have to use the timer on the device to note their time. Here, the mentorship role of parents and teachers is important. The parents should check the smartphone using habits of their children because they can use the Facebook application on the smartphone and have maximum chances of absorbing into the online space of social networking through Facebook. Although WhatsApp is growing in popularity for educational purposes, teachers should integrate Facebook into teaching methodology, so students can minimize their usage of Facebook which is problematic.

### **Limitations**

The student login activity of Facebook is not considered for the study being done. The study did not check the effect of time patterns on the factors of problematic Facebook use. The current study has utilized the cross-sectional design and future studies can utilize the longitudinal design and the continuous scales for measuring time patterns. There is a chance of deficient self-regulation for Facebook use after half an hour of use rather than after three hours of use because the multiple attempts of login to Facebook on smartphone and laptop exacerbate the pressure with

the availability of the internet. More research is required in this context by analyzing time patterns carefully.

### References

- Balakrishnan, V., & Shamim, A. (2013). Malaysian Facebookers: Motives and addictive behaviours unraveled. *Computers in Human Behavior, 29*(4), 1342–1349. <https://doi.org/10.1016/j.chb.2013.01.010>
- Balci, S., & Golcu, A. (2013). Facebook Addiction among University Students in Turkey: “Selcuk University Example.” *TÜRKİYAT ARAŞTIRMALARI DERGİSİ, (34)*, 255–278.
- Boyd, D. B., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210–230. <https://doi.org/10.1111/j.1083-6101.2007.00393.x>
- Buffardi, L. E., & Campbell, W. K. (2008). Narcissism and social networking web sites. *Personality and Social Psychology Bulletin, 34*(10), 1303–1314. <https://doi.org/10.1177/0146167208320061>
- Bumgarner, B. A. (2007). You have been poked: Exploring the uses and gratifications of Facebook among Emerging Adults. *First Monday, 12*(11). <https://doi.org/DOI:10.5210/fm.v12i11.2026>
- Cassidy, J. (2006). Me Media: How hanging out on the Internet became big business. Retrieved from <https://www.newyorker.com/magazine/2006/05/15/me-media>
- Dhaha, I. S. Y. A., & Igale, A. B. (2014). Motives as Predictors of Facebook Addiction. *The Journal of the South East Asia Research Centre, 6*(2), 47–68. <https://doi.org/10.7603/s40>
- 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. <https://doi.org/10.1111/j.1083-6101.2007.00367.x>
- Etchells, P. J., Gage, S. H., Rutherford, A. D., & Munafò, M. R. (2016). Prospective investigation of video game use in children and subsequent conduct disorder and depression using data from the

- avon longitudinal study of parents and children. *PLoS ONE*, *11*(1), 1–11. <https://doi.org/10.1371/journal.pone.0147732>
- Griffiths, M. (2005). A ‘components’ model of addiction within a biopsychosocial framework. *Journal of Substance Use*, *10*(4), 191–197. Retrieved from [http://www.academia.edu/429550/Griffiths\\_M.D.\\_2005\\_.A\\_components\\_model\\_of\\_addiction\\_within\\_a\\_biopsychosocial\\_framework.\\_Journal\\_of\\_Substance\\_Use\\_10\\_191-197](http://www.academia.edu/429550/Griffiths_M.D._2005_.A_components_model_of_addiction_within_a_biopsychosocial_framework._Journal_of_Substance_Use_10_191-197)
- Hair Jr., J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *Partial least squares structural equation modeling with R. Practical Assessment, Research and Evaluation* (Vol. 21). London: Sage Publications, Inc. <https://doi.org/10.1108/abr-10-2013-0128>
- Hong, F. Y., Huang, D. H., Lin, H. Y., & Chiu, S. L. (2014). Analysis of the psychological traits, Facebook usage, and Facebook addiction model of Taiwanese university students. *Telematics and Informatics*, *31*(4), 597–606. <https://doi.org/10.1016/j.tele.2014.01.001>
- Hussain, M., & Saleem, N. (2016). *Socio-Psycho-Communicative Predictors of Passive Facebook Usage: Psychometrical Validation of Constructs and Model among digitally privileged University Students in Pakistan*[Unpublished M.Phil Thesis]. Institute of Communication Studies, University of the Punjab, Lahore.
- James, C. (2014). *Disconnected: Youth, New Media, and the Ethics Gap*. MacArthur Foundation Series on Digital Media and Learning. *MIT Press*.
- Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers and Education*, *58*(1), 162–171. <https://doi.org/10.1016/j.compedu.2011.08.004>
- 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. <https://doi.org/10.1089/cyber.2012.0249>
- Lee, Z. W. Y., Cheung, C. M. K., & Thadani, D. R. (2012). An investigation into the problematic use of Facebook. *Proceedings of*

- the Annual Hawaii International Conference on System Sciences*, 1768–1776. <https://doi.org/10.1109/HICSS.2012.106>
- Malik, S., & Khan, M. (2012). Impact of facebook addiction on narcissistic behavior and self-esteem among. *Journal of the Pakistan Medical Association*, (March), 260–263. Retrieved from <http://civic.mit.edu/blog/humayusuf/old-and-new-media-converging-during-the-pakistan-emergency-march-2007-february-2008>
- Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). A comprehensive meta-analysis on Problematic Facebook Use. *Computers in Human Behavior*, 83, 262–277. <https://doi.org/10.1016/j.chb.2018.02.009>
- Neuman, S. B. (1988). The Displacement Effect: Assessing the Relation between Television Viewing and Reading Performance. *Reading Research Quarterly*, 23(4), 414–440. <https://doi.org/10.2307/747641>
- Parkes, A., Sweeting, H., Wight, D., & Henderson, M. (2013). Do television and electronic games predict children’s psychosocial adjustment? Longitudinal research using the UK Millennium Cohort Study. *Archives of Disease in Childhood*, 98(5), 341–348. <https://doi.org/10.1136/archdischild-2011-301508>
- Parsons, J. (2019). Why does WhatsApp say WhatsApp from Facebook? Retrieved from <https://metro.co.uk/2019/12/06/whatsapp-say-whatsapp-facebook-11281436/>
- Przybylski, A. K. (2014). Electronic Gaming and Psychosocial Adjustment. *Pediatrics*, 134(3), e716–e722. <https://doi.org/10.1542/peds.2013-4021>
- Ryan, T., Chester, A., Reece, J., & Xenos, S. (2014). The uses and abuses of facebook: A review of facebook addiction. *Journal of Behavioral Addictions*, 3(3), 133–148. <https://doi.org/10.1556/JBA.3.2014.016>
- Shahnaz, L., & Wok, S. (2011). Religious Motives for using Facebook among University Muslim Students. In *Seminar Kebangsaan Media dan Dakwah (SMED)* (pp. 1–20). Retrieved from [http://irep.iium.edu.my/14171/1/Liza\\_Shahnaz-NATIONAL\\_SEMINAR.pdf](http://irep.iium.edu.my/14171/1/Liza_Shahnaz-NATIONAL_SEMINAR.pdf)
- Social media accounts in Pakistan hike up to 44 million. (2017). *The*

*Nation*, pp. 1–2. Retrieved from <https://nation.com.pk/15-Feb-2017/social-media-accounts-in-pakistan-hike-up-to-44-million>

Walsh, D. (2010). Pakistan lifts Facebook ban but 'blasphemous' pages stay hidden. Retrieved from <https://www.theguardian.com/world/2010/may/31/pakistan-lifts-facebook-ban>

Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A Review of Facebook Research in the Social Sciences. *Perspectives on Psychological Science*, 7(3), 203–220.  
<https://doi.org/10.1177/1745691612442904>

Received June 21<sup>st</sup>, 2020

Revisions Received January 28<sup>th</sup>, 2021

