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Keywords: big five factor model, facebook addiction, academic performance.

GJMBR-E Classification: JEL Code: M30, M39



FACEBOOKADDICTIIONASTUDYOFGFIVEFACTORSANDACADEMICPERFORMANCEAMONGSTSTUDENTSOFIUB

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Facebook Addiction: A Study of Big-Five Factors and Academic Performance amongst Students of IUB

Shanayyara Mahmood^α & Umer Farooq^ο

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Originality of the study: Overall, this research explains that extroversion ahs play a major role in determining Facebook Addiction and that there is no significant relationship between academic performance and Facebook Addiction.

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I. INTRODUCTION

The web has considerably enhanced the capacity for people to interact with one another without the limitations of their location. Also, it has widened the amount of associations that any person may keep on at a time. For free and accessible interaction over the web, social networking sites (SNS) have gained significant importance. One of the fastest growing SNS site is Face book, it has over one billion active users around the globe and 584 million people use it daily on the average. Ellison and others suggest that the basic statistical portion of people ranging between eighteen to twenty-four years is increasing at a rate of seventy-four percent annually.

Facebook has gained unparalleled fame and is presently the 2nd most often used and visited website on the web, capturing an audience of over 606 million according to Gonzalez (2011). In Australia, the zeal to use face book is noticeable, almost half the population is reported to be active users. (Gonzalez, 2011). It is not

shocking to find that face book has impacted the social-networking of the people, keeping these figures in mind. As an example, a variety of studies have evaluated that Face book use is related to enhance sociability. (Burke, Marlow, & Lento, 2010; Steinfield, Ellison, & Lampe, 2008). Also, recently a qualitative study suggested that Face book is also dynamical in the manner people communicate and accompany each other according to Richardson & Hessey, 2009.

Although face book use has its implications, there is a definite gap of thorough empirical research in the area. One of the reasons could be that face book is comparatively a new social advent and intrinsically, there has been restricted chance for preliminary analysis. However, within the last 2 years, a growing range of analyzers have recognized the importance of this kind of research, and are finding measures towards distinguishing the categories of individuals who are facebook users. (Hargittai, 2008; Raacke & Bonds-Raacke, 2008; Sheldon, 2009; Tufekci, 2008). So as to effectively come through this objective, some researchers have centered on the link between Facebook use and varied aspects of personality traits. (Amichai-Hamburger, 2002; Buffardi & Campbell, 2008;; Mehdizadeh, 2010; Ross et al., 2009; Sheldon, 2008). In keeping with Amichai-Hamburger (2002), this type of analysis is important as "personality may be extremely pertinent in deciding behavior on the web."

The actual purpose behind the creation of face book was to provide a social tool for students to maintain their relationships related to university. But today, high school and college students have preferred Facebook as the priority social-networking site. Among college students, looking for someone who does not use face book is a formidable task Ellison et al reports that in 2007, 94% of Undergraduate students in the United States accounted for being face book users. In addition to the large scale use of face book by college students, the average time they spend on face book is also on the rise. In January 2012 a total of more than ten billion min/day were amassed by users logged on to facebook on their personal computers. In comparison to January 2011, and January 2012 the accumulated min/day and the average min/user per day escalated by 57% and 14% respectively.

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With the growing fame of Facebook among students, many of the researchers have started to focus on the reasons that can be relevant to the excessive use of Face book. One of the approaches used it to see the affect of personality traits on using face book. One objective of this research is to examine if there is a relation between personality variables and face book. (Ryan, T and Xenos S, 2011).

Known that a large number of students use Facebook and the quantity of time that they are spending logged on to Facebook, the issue raised is whether using Facebook negatively affects the performance of students at their academic level. The question arises as whether Facebook use negatively impacts academic performance. Till now, the research on the association between time devoted to Face book and academic performance has generated differentiated results. Another purpose of the study is to investigate if there is a negative association between Facebook addiction and academic performance as investigated by Ryan and Xenos in 2011.

a) Research Objectives

The key objectives of this study are:

- To analyze the impact of big five factor model on face book addiction
- To analyze the relationship between face book use and academic performance of students.

b) Hypotheses

H1: Face book Addiction is positively correlated with extroversion.

H2: Agreeableness negatively affects Face book Addiction.

H3: High Openness to experience positively affects Face book Addiction

H4: Conscientiousness is positively associated to Face book Addiction.

H5: Neuroticism positively affects level of Face book addiction.

H6: Face book Addiction and Academic Performance are negatively correlated.

c) Outline Of The Study

This study consists of 7 chapters. The design of the study has started with the start of research questions:

II. LITERATURE REVIEW

a) Social-networking sites and Facebook

Internet socializing has come to the forefront as an integral aspect of young adult life. Within the public, the highest ratio of computer and internet users belongs to the adolescent and young adult group, their usage constituting mainly of academic purposes (46%), emailing/Instant Messaging (36%) and PC gaming (38%) (De Bell & Chapman 2006). Boyd and Ellison (2008)

investigated that Social Networking Sites have provided the most recent platform for fashioning up of public or private profiles and using them for connecting with people in their networks.

SNS have emerged as online services letting people to 1) be part of a system and to fabricate a public or semi-public profile within it 2) make up a list including other people with a common connection 3) track their own and others' connection lists within the setup.

Facebook, a Mark Zuckerberg innovation for aiding residential college and university students to interact with other residence hall occupants is a notable example. It is described as "an online directory that interacts students through social networking at college and university level" (Zuckerberg, 2005.) Millions of users are subscribed to social websites such as MySpace and the far more preferred Facebook. The far-stretching popularity of facebook has made people question about its implications on the lives of college students. (Stephens & Torres, 2005).

b) Facebook

With over 800 million users, face book is one of the most famous SNS. As much as seventy languages are provided on the website. Recently, with the advent of smart phones, people are always on the go, they log on to Face book without needing a personal computer and check their profiles. There are almost 475 mobile operators worldwide that are involved in the promotion of face book. According to Facebook Press 2012, presently, 350 million people access face book through their phones.

c) Why the Temptation?

Levy (2010), investigated that face book has been growing amazingly from 2008 to June 2009. He stated that face book grew at a rate of 157% with approximately 208 million active users. If face book were a country, it would have been the fifth largest with respect to population, even bigger than Russia and Japan, this comparison was given when it hit the mark of two hundred million users while a video was also launched showing this race.

An online profile is made on face book where users can 'add' friends and can post or comment on each others' profiles. Also, personal information is required while creating an account including information like religious and political views, relationship status and favorite music etc. Every individual has the capacity to upload photos they like on their profiles. This creates a variety of profile showing some private information as well. (Ellison, Steinfield and Lampe, 2007).

With numerous individuals utilizing these destinations, showing data and pictures which could be seen as private to a lot of people, businesses have begun to exploit this. Numerous managements now

utilize long range informal communication destinations like an educational module vitae to figure out if the competitor is suitable for the occupation. It is clear that a ton more could be told around an individual than essentially having photographs and status' on an informal communication site.

d) *The Big Five and Facebook Use*

A person's characteristics can be seen as their inclinations or preferences producing a specific mindset when faced with different scenarios. Ajzen, J. (1988) The generally acknowledged model of personality is the Five-Factor Model (FFM), coming out as the most agreed upon postulation on this matter. John, O. P., Naumann, L. P. and Soto, C.J. (2008). The FFM proposes that an individual's personality traits are weighed up by five determinants: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. John, O. P., Naumann, L. P. and Soto, C.J. (2008). Every single one of these factors blend various features that in the past were employed across multiple domains with restricted rewards. These fundamental trends are intrinsic and progress throughout life, shaping up thoughts, feelings and actions. McCrae, R.R., and Costa, P.T. (1987).

Ross et al. (2009) and Amichai-Hamburger and Vinitzky (2010) examined particularly the interrelation of the Big Five factors and Facebook usage. Their outcome suggested that multiple factors are related to the distinct patterns of Facebook usage. For example, extraverts normally have bigger friend lists (Amichai-Hamburger and Vinitzky, 2010), and join more Groups1 (Ross et al., 2009), compared to introverts. Additionally, people having greater neuroticism are likely to use the Wall2 (Ross et al., 2009) more than those who are emotionally stable. According to Ross et al. (2009) a possible explanation for this is that posting on the Wall gives them a chance to take their time for devising messages and responses. Therefore, minimizing the risk of accidental revelations about personal information.

Regardless of the forecast that extraverts would spend more time on Facebook in contrast to conscientious individuals, Ross et al. (2009) or Amichai-Hamburger and Vinitzky (2010) were not able to find a considerable link between Facebook usage and the Big Five factors. In reaction to this, Ross et al. (2009) claimed that perhaps the Big Five were not specific enough to exhibit the subtleties concerning Facebook usage.

Neuroticism pertains to one's emotional stability. Anxiousness, anger, grief and inability to handle stress are key features of high neurotics. Stability, good stress management and self control are signs of low neuroticism. Facebook provides a stage for those who are high on neuroticism to make attempts for displaying themselves as appealing as they can. Moore, K. and McElroy, J.C., (2012), then again were providing them

with more time to evaluate what they are going to say contrary to a face to face situation. Consequently, such people tend to use Facebook for prolonged durations

Extraversion refers to a person's degree of sociability and outgoingness. A hallmark of extraverts is their enthusiastic attitude for the outside world, and can be put forward as friendly, energetic, confident and showing optimism. On the other hand, introverts are reserved, lack enthusiasm and are less optimistic. The link between Facebook usage and extraversion has seen two contrary suggestions being brought forward. The first state that as Facebook is a way to reach out to contacts made off-line, extraverts are likely to spend more time on it. The second proposition suggests that because introverts do not communicate as effectively in person, Facebook enables them to make up for this as explained by Moore, K. and McElroy, J. C., (2012).

Openness to experience is concerned with the degree of a person's desire to look into new circumstances or conditions. Individuals who display a liking to experiences show affinity for diversity, fresh encounters and curiosity of the mind. Those who are not very intrigued by new experiences are likely to be cautious, prefer stability and do not have the same mental curiosity. The provision of fresh ideas about connecting to people and opportunities for additional experiences may be why people scoring high in openness favor spending more time on Facebook. (Amichai-Hamburger, Y., and Vinitzky, G. (2010).

Agreeableness refers to the magnitude to which a person favors and practices collaboration with others. Those who are agreeable have been noticed to be more cordial, social, and affectionate and trusting while disagreeable individuals show harshness, are less cooperative and more likely to engage in arguments. Individuals with high scores on agreeableness have more chances of involvement in relationships but there is a lack of conclusive evidence that they would do the same online. Less Facebook use decreases the likelihood of having to interact with people, so those scoring low on agreeableness prefer to spend less time online. (Ross, C., Orr, E., Sisic, M., Arseneault, M., Simmering, M., and Orr, R. (2009).

Conscientiousness signifies the traits of being disciplined, cautious and having strong willpower. Such people show restraint over their desires and are structured, hard-working and strain to achieve their targets. Unconscientious individuals on the other hand are more susceptible towards acting on their impulses, are disordered and often delay their work. High scorers on conscientiousness are not likely to spend a lot of time on Facebook as they might see this as a diversion from their path to complete the goals set out for them. (Moore, K. and McElroy, J. C., (2012).

Despite Facebook's widespread popularity, the topic of Facebook usage and its correlation to personality types has seen considerable research just in

the previous few years. A high number of these studies have prioritized the various activities performed on Facebook instead of the time spent online.

When assessing students of Undergraduate and graduate levels, Ross et al. proposed that there was a link between personality variables and a few features of Facebook usage. According to them extraverts were more inclined to join Facebook groups as opposed to introverts. People high on neuroticism declared the Wall as their most favoured part of the website. Openness to experience was linked to a greater degree of socializing via Facebook. The authors themselves expressed their surprise at the lack of notable conclusions associated with personality variables in the recent study. Amichai, Hamburger and Vinitzky observed that extravert students had more Facebook friends but differed with Ross et al., by stating there was no appreciable relationship between being an extravert and joining more groups.

Ross et al. and Amichai Hamburger Vinitzky were unable to detect a link between the amount of time spent online and personality variations. Ryan and Xenos proposed that extraverts tend to spend more time on Facebook. Moore and McElroy supposed that the kinds of Facebook usage are strongly connected to personality variations. Introverts are assumed to have smaller social networks. Highly conscientious people are inclined to utilize the Wall far less often, whereas agreeable persons seek to post material about them on it.

The single component having a significant link to usage time was neuroticism. Hughes et al. stated that the likelihood of using Facebook was more in high neuroticism. Extraversion, conscientiousness and openness had no pronounced effect on Facebook usage. Any affiliation between particular activities on social networking websites and degree of neuroticism was ruled out by Muscanell and Guadagno. However, they proposed a relationship of particular types of usage with openness, agreeableness, conscientiousness and extraversion.

e) *Personality Characteristics of Facebook Users*

Parikh and Gupta (2010) referred to Funder (2001) in their book to characterize the significance of identity characteristics, they agreed that "a people trademark example of thought, feeling, and conduct, together with the mental components – concealed or not – behind those examples". (Parikh & Gupta, 2010, p187). In basic terms, identity is the thing that makes an individual diverse or like others. Numerous specialists have utilized the Neo-Five Factor Inventory by Costa and Mc Crae to measure the diverse identity qualities.

The ones which are perceived in the Costa and Mc Crae model are extroversion (sum and power of interpersonal collaborations), neuroticism (level of passionate alteration and precariousness), openness to

encounter (seeking after and liking different sorts of experience), good faith (control, regulation and heading of objectives and motivations) and amenability (the sort of communications an individual likes to have with others) (Costa & Widiger, 2002). In the study by Wilson, Fornaiser and White (2010), 'Mental Predictors of Young Adults' Use of Social Networking Sites', they expected to test the part of identity and respect toward oneself in the setting of adolescent grown-ups and their levels of Social Networking.

Their discoveries demonstrated that extroverted individuals reported more elevated amounts of Facebook use and addictive tendencies as stated by Wilson et al, (2010) These results indicate that socializers need boundless contact with the virtual world and "companions" for a high incitement and a huge informal community. It additionally demonstrated members who scored low on principled invested an expanded measure of time on Facebook, this is thought to be down to the way that rather than study they are stalling on Facebook. The openness attribute had no impact on SNS utilization and this is thought so in light of the fact that interpersonal organizations are no more "another" creation. Suitability and neuroticism were found to have no effect on Facebook use stated by Wilson and others (2010).

In the study by Amichai-Hamburger and Vinitzky (2010), they discovered a critical correspondence between identity and Facebook utilization. They found that social butterflies emphatically related with the amount of Facebook companions the client has and that "individuals with low or abnormal amounts of neuroticism were slanted to impart more essential data than individuals to direct levels of neuroticism". (Amichai-Hamburger et al, 2010).

Besides to this they uncovered that people with more excellent openness to encounter utilized a greater number of characteristics from the individual data area than people with easier levels of openness to encounter. Ten Traits connected with "extraversion" incorporate amiability, emphaticness, garrulity and being dynamic. Those high in extraversion have a tendency to show an inclination for interpersonal connection and social movement as investigated by Borman & Motowide, 1993). In the study by Davies, French and Keogh (1998) they discovered extraversion to absolutely correspond to self-beguiling improvement which is "having a swelled, yet sincerely held Self-portrayal". (Davies et al, 1998) Findings by Kristof-Brown, Barrick and Franke (2002) indicated that extroverted people make more amazing utilization of self advancement. This connections once again to Wilson et al (2010) discoveries that extravert identities have a noteworthy positive association with Facebook use, socializers use Facebook as an outlet for headway toward oneself.

f) *Technological Advancement, Social networking and Academic Performance*

Studies have investigated the common effect of innovation on scholastic accomplishment and improvement of youngsters and adolescents. Positive and negative impacts of innovation on accomplishment have been archived. Espinosa, Laffey, Whittaker, and Sheng (2006) explored the part of engineering in right on time youth improvement utilizing information from the Early Childhood Longitudinal Study. The findings showed that get to help the taking in capability of the learners, yet the creators forewarn that folks ought to support the instructive utilization of engineering to enhance scholarly accomplishment. Lei and Zhao (2005) examined the specifics of access, recognizing that amount is not as essential as quality regarding innovation utilization and person accomplishment. When the nature of innovation utilization is not nearly observed or guaranteed specifically, machine utilization may accomplish more damage than great to understudy accomplishment in school. Also, innovation that was found to have a positive effect on scholastic accomplishment, or engineering with instructive worth, was not prominent and utilized less every now and again. Studies have likewise reported no connection between workstation utilization and scholarly accomplishment. Case in point, no relationship was found between time used on the workstation at home and GPA in an example of young people (Hunley, 2005).

Different authors have discovered that recreational Internet utilization is emphatically associated with hindered scholarly execution (Kubey, Lavin, & Barrows, 2001). More or less 10–15% of study members reported feeling not being in complete control of their Internet utilization, and that it has harmed their schoolwork. People who reported Internet-brought on schoolwork issues were found to have used five times a bigger number of hours online than the individuals who did not, and they were likewise fundamentally more inclined to report that their Internet use made them stay up late, get less rest, and miss classes. Despite the fact that not particularly specifying FB, the creators presume that it is less the Internet that causes these issues as the new social chances of the Internet. Understudies who reported scholarly issues were more inclined to utilize the Internet for constant social exercises, for example, IM and visit rooms. Kubey and partners note that this social utilization are what hold people hostage, particularly late around evening time. Particular to FB use, Vanden Boogart (2006), in an unpublished Master's proposition, discovered that substantial FB use (i.e., more of an opportunity used on FB) is seen around learners with easier GPA's, albeit no control variables were executed in the study.

Then again, Kolek and Saunders (2008) found that there was no connection between Facebook utilizes and GPA as a part of a specimen of learners from an open North-east research college. All the more as of

late, an exploratory study reported a negative relationship between FB utilization and scholastic accomplishment as measured without anyone else's input reported GPA and hours used contemplating for every week (Karpinski & Duberstein, 2009). Once more, this study just executed one control variable (i.e., learner status as either undergrad or graduate), and neglected to control for other bewildering variables, for example, college major. This information from the study will be re-examined and displayed in the momentum paper focused around proposals and criticism from different analysts. In light of the previously stated study, an alternate gathering of specialists utilized the exploratory discoveries as a springboard for a production where no relationship was found between FB use and GPA (Pasek, More, & Hargittai, 2009). Notwithstanding, the general agreement is that more research needs to be carried out, and that the addressed relationship between SNS and scholastic execution remains generally unreturned.

g) *Facebook and Academic Performance*

Compelled examination has been headed related to the association between Facebook usage and academic execution. A critical some piece of the work that does exist may be found in unpublished unique duplicates. For example, Vanden Boogart in a Master's hypothesis uncovered that staggering Facebook usage is seen in individuals with less demanding Gpa's.

Karpinski and Duberstein and Kirschner and Karpinski reporting findings on studies using the same data set, investigated whether bigger measures of Facebook usage may be related to a diminishment in academic execution around school understudies. They uncovered a negative relationship between Facebook utilizes and reported to oneself measures of GPA and hours utilized inspecting for consistently as a part of an example of student and graduate researchers heading off to a considerable state financed school in the Midwest United States.

Amazingly, they found that the time deployed on the web did not fluctuate much around individuals and that contrary to the confirmation; learners acknowledged that time devoted to Facebook did not influence their academic execution. The delayed consequences of their study set off a media stir and their proposal that "the negative aftereffects of Facebook use can caution administrators to uncover methodologies to purpose of repression access realizing better educational execution." Kirschner and Karpinski perceive that there are a lot of hindrances with their study and call for more careful studies to be guided using diverse dismemberment strategies, for instance, backslide or structural scientific proclamation exhibiting.

Kolek and Saunders suggested that they discovered no association between Facebook utilization and scholastic execution. Pasek et al. were extremely

incredulous of past examination indicating to discover a negative relationship between Facebook utilize and GPA because the specimen was not illustrative of school learners on the loose, the measure of utilization were inclined and the studies did not mull over control variables. They led three multiple studies that incorporated a cross-sectional instance of one thousand and sixty freshmen at a vast University in Illinois. They were unable to discover a hearty negative association between evaluation points and the usage of Facebook in any of the three studies. They presume that "rather than late staggering and unverified news reports that Facebook utilization brings down scholarly execution, results show that the two variables are possibly relevant.

III. RESEARCH METHODOLOGY

a) Research Design

Malhotra and Birks, (2007), explain the procedural framework within which a research is conducted as a research methodology. Survey approach was used through the use of questionnaire. Quantitative approach was adopted while developing the questionnaire. This choice was imperative necessity in this research design not only due to the exploratory nature of the study itself but also because, to thoroughly understand and analyze a phenomenon, circumstance,

or issue by sampling a cross-section of the overall population at a certain point in time, it is the most suitable method (Robson 1993).

b) Hypotheses

H1: Face book Addiction is positively correlated with extroversion.

H2: Agreeableness negatively affects Face book Addiction.

H3: High Openness to experience positively affects Face book Addiction

H4: Conscientiousness is positively associated to Face book Addiction.

H5: Neuroticism positively affects level of Face book addiction.

H6: Face book Addiction and Academic Performance are negatively correlated.

i. Theoretical framework

The theoretical framework depicted in Figure 1, shown below, depicts that Big Five Factors will have an influence on Facebook Addiction that will be negatively related to academic performance.

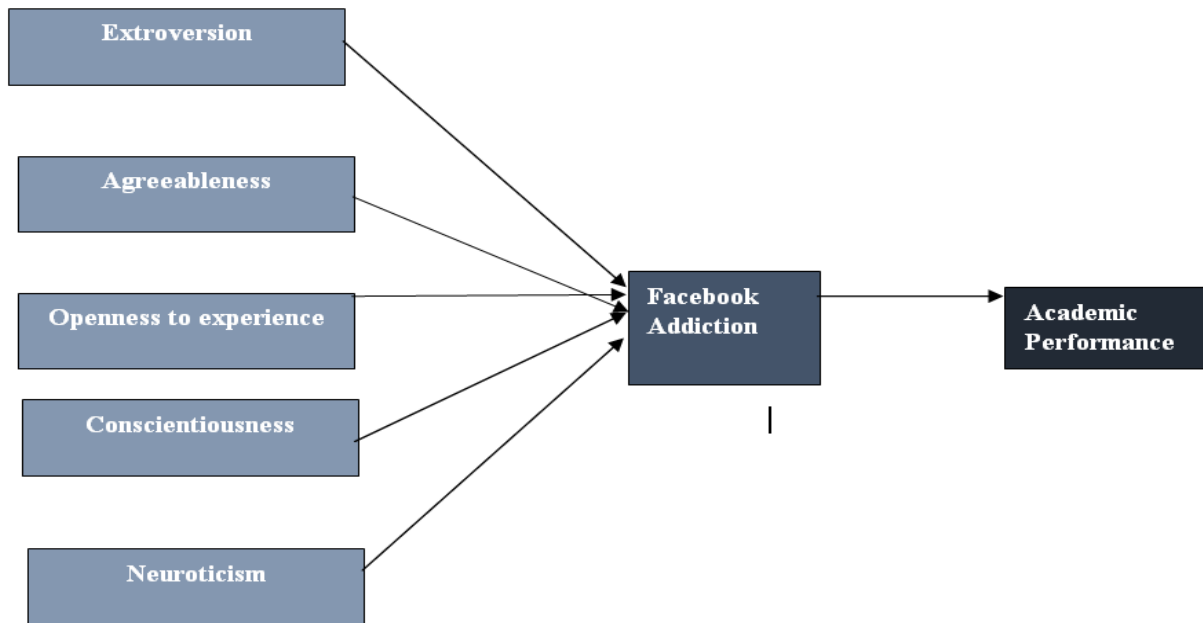


Figure 1 : Research Framework

c) Data Collection

A sample of 150 respondents were asked to participate in a self-administered questionnaire, in order to collect the data for understanding the situation about the affect of big five personality traits and facebook usage on academic performance. The population for the current research is facebook users in the department of

Management sciences, the Islamia University of Bahawalpur, Pakistan.

The current study uses a non-probability sampling technique that is convenience sampling. A sampling technique that collects the significant information from the conveniently available sample study is known as convenience sampling (Zikmund,

1997). This type of sampling is normally helps in collecting large number of completed surveys speedily and with economy (Lym *et al.*, 2010).

d) *Instrument and Measures*

The survey instrument contains two sections. Section 1 includes different personal and demographic variables. This section will obtain the respondent's information about gender, age, income, education and status. Section 2 includes the latent variables that are important in the current study. This section of the study is developed based on the past literature and already used questionnaires (Annexure).

The scales of the study were adopted from the previous literature and published studies. The first five variables of the study were Neuroticism, Extroversion, Agreeableness, Openness to Experience and Conscientiousness, commonly known as the Big Five Factor Model. The second variable was Facebook Addiction and the third variable used was Academic Performance measured by the total percentages.

e) *Data Analysis Techniques*

A lot many researches on relationship marketing have based their study on quantitative technique and by analyzing the statistical results they present upon analysis. The recent times however have seen the latest studies being based on both qualitative and quantitative data analysis (Burke and Onwuegbuzie, 2004). This is a more integrated way and is convenient for dealing with the respondents who are often busy and have a short span of free time to fill out research questionnaires. Data was entered, edited and analyzed by using Software's, SPSS version 16 and Microsoft Excel 2007 by applying following techniques: mean, standard deviations, frequency, percentages, Cronbach's alpha, Correlation and Multiple Regression.

i. *Mean*

Used as a measure of central tendency, arithmetic mean is equivalent to the total of all the values divided by the total number of vales.

ii. *Standard Deviation*

A measure of the dispersion of a set of data from its mean. The extra distance between the data, the

more is the deviation. SD is calculated as the square root of variance.

iii. *Cronbach's Alpha*

This was run to investigate the internal reliability of the instrument. The value of Cronbach's Alpha was 0.845 which is above the standard value suggested by (Nummally, 1978) of 0.70. It means that our instrument is reliable and we can apply different statistical tests and interpret the results with confidence.

iv. *Correlation Analysis*

Pearson correlation was run to check the association of variables with each other and if any observed variable has perfect covariance with any other variables, which are observed in the study.

v. *Correlation Coefficient*

The Coefficient of Correlation, also known as the Correlation Coefficient, is the strength of a relationship, measured linearly, between two variables. This measure can range from -1 to 1. If the Coefficient of Correlation is equal to:

- 1 – Suggests a perfectly negative correlation.
- 0 – No correlation either positive or negative.
- 1 – Suggests a perfectly positive correlation.

vi. *Regression Analysis*

A statistical tool for approving the associations amongst variables. Moreover, regression analysis helps one understand how the specific value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are constant — that is, the average value of the dependent variable when the independent variables are fixed. Linear regression is used as the tool for analysis.

IV. RESULTS AND ANALYSIS

a) *Profile of the Respondents*

The following table presents the personal and demographic information such as gender, age, education level and status.

Table 1 : Gender of the Respondents

Gender	Frequency	Percentage
Male	79	52.7
Female	71	47.3

A total of 150 valuable responses were received. It was tried to have equal representation of both the genders. 79 males while 71 females responded well. One of the reasons is that in Pakistan, a higher

number of males attend university more than females due to the setup of our society.

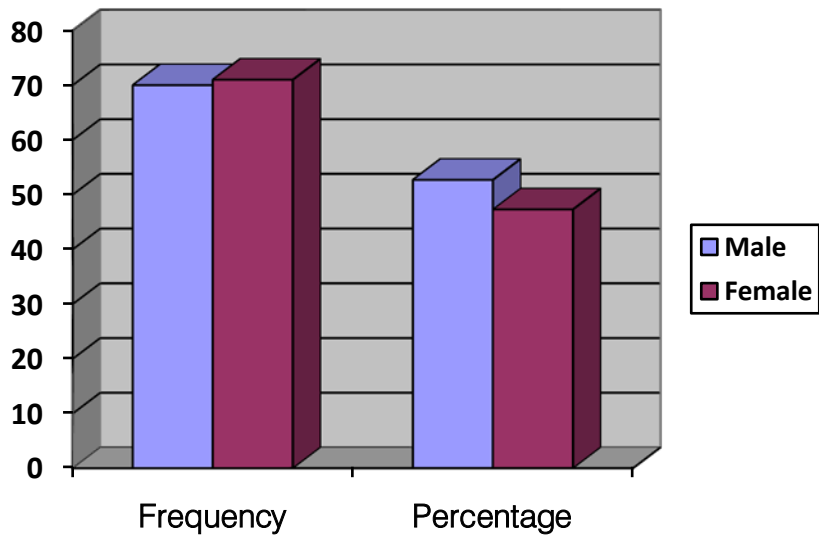


Table 2 : Age of the Respondents

Age	Frequency	Percentage
Below 20 Years	26	17.3
20-30 Years	115	76.7
30-40 Years	7	4.7
Above 40 Years	2	1.3

Most of the respondents are between ages 20-30 years which is the common age for students doing Bachelors. The number of such respondents is 115

while below 20 years of age are 26 out of the 150 respondents.

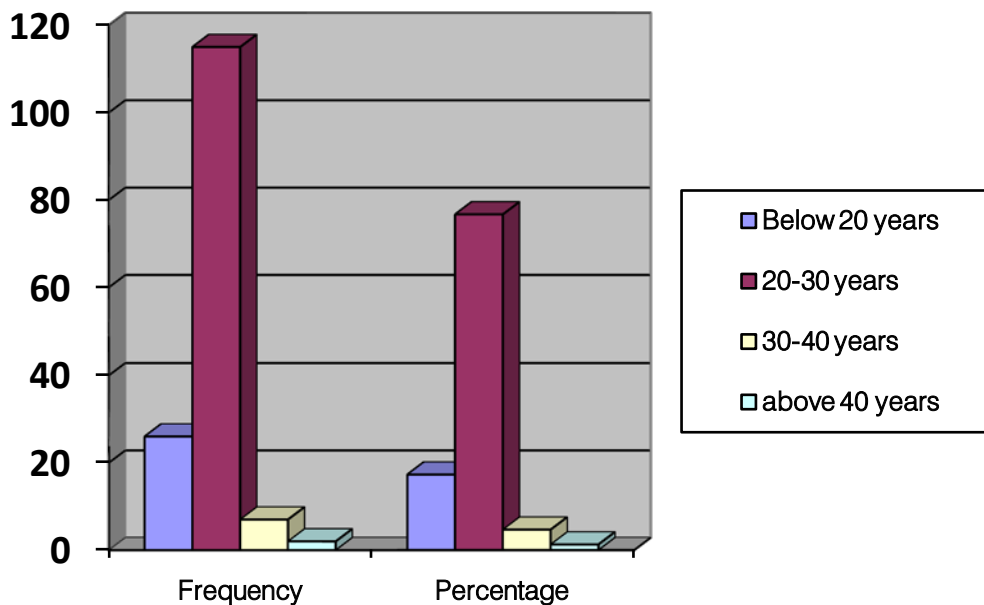


Table 3 : Qualification of the Respondents

Education	Frequency	Percentage
Intermediate	10	6.7
Bachelors	106	70.7
Masters	22	14.7
MS/MPhil	12	8.0

It could be noted from the above table that the highest frequency is of the students doing bachelors, that is 106 out of a total of 150 respondents. This could be because people in Pakistan prefer studying till

Bachelors than any other level of education. 22 respondents are doing masters and only 12 are enrolled in MS/Mphil programs.

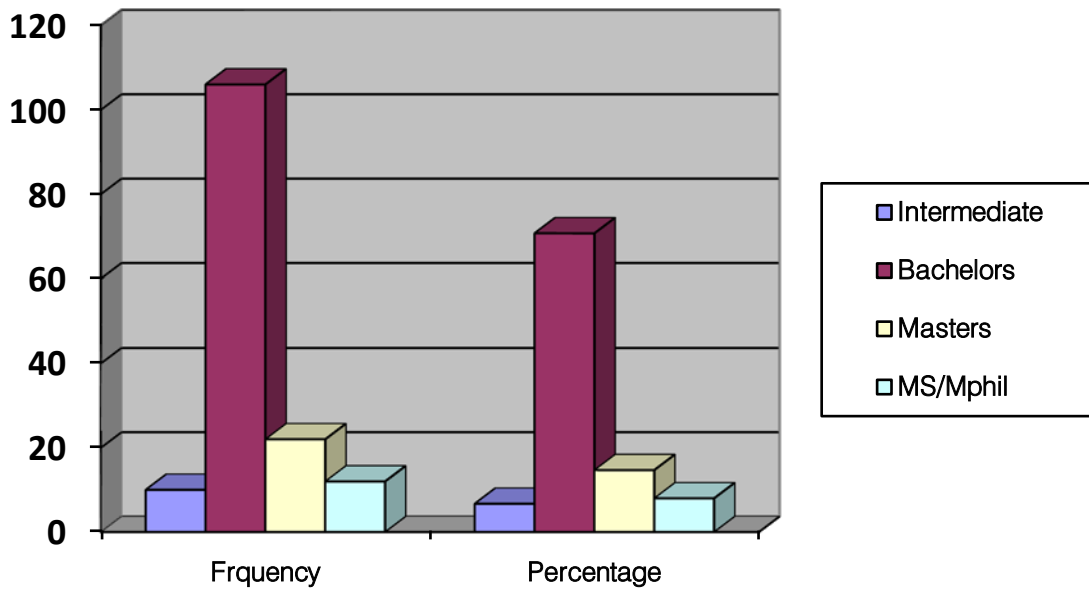


Table 4 : Income of the Respondents

Income	Frequency	Percentage
Below Rs 10,000	67	44.7
Rs.10,000-15,000	34	22.7
Rs.15,000-20,000	15	10.0
Above Rs.20,000	34	22.7

It could be seen in the above table that majority of the students have income below Rs.10,000 that is around 45% as students in Pakistan do not have a separate e means of earning and they majorly depend on pocket money or their savings.

b) Reliability analysis

Table 5 : Reliability Analysis

Cronbach Alpha	No. of items
0.845	43

To check the internal reliability of the instrument, Cronbach's alpha was run. The value of Cronbach's Alpha comes to 0.845. Which is above the standard value proposed by (Nummally, 1978) of 0.70 this shows that our instrument is reliable and we can confidently apply different statistical tests and interpret the results with confidence (table 5).

Table 6 : Mean and Standard Deviation

	Mean	Std. Deviation	N
Extroversion	2.99	0.625	150
Agreeableness	3.43	0.665	150
Openness to experience	3.1	0.655	150
Conscientiousness	3.43	0.658	150
Neuroticism	2.95	0.634	150
Average Face book	2.84	0.777	150

The table describes the mean and standard deviation of the Big five factors and Face book Addiction.

c) Correlation analysis

Table 7: Correlations

		Extroversion	Agreeableness	Openness to experience	Conscientiousness	Adjustment	average facebook
Extroversion	Pearson Correlation	1	.259**	.449**	.307**	.418**	.240**
	Sig. (2-tailed)		.001	.000	.000	.000	.003
	N	150	150	150	150	150	150
Agreeableness	Pearson Correlation	.259**	1	.325**	.376**	.068	-.067
	Sig. (2-tailed)	.001		.000	.000	.407	.417
	N	150	150	150	150	150	150
Openness to experience	Pearson Correlation	.449**	.325**	1	.295**	.416**	.204*
	Sig. (2-tailed)	.000	.000		.000	.000	.012
	N	150	150	150	150	150	150
Conscientiousness	Pearson Correlation	.307**	.376**	.295**	1	.264**	-.027
	Sig. (2-tailed)	.000	.000	.000		.001	.742
	N	150	150	150	150	150	150
Adjustment	Pearson Correlation	.418**	.068	.416**	.264**	1	.218**
	Sig. (2-tailed)	.000	.407	.000	.001		.007
	N	150	150	150	150	150	150
average facebook	Pearson Correlation	.240**	-.067	.204*	-.027	.218**	1
	Sig. (2-tailed)	.003	.417	.012	.742	.007	
	N	150	150	150	150	150	150

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

i. Interpretation of correlation

To check the relationship between variables and to find whether any observed variable has covariance with any other variables, Pearson correlation was applied. The correlations are showing the relationships between variables of the Big Five Factors and Face

book Addiction. Extroversion is significant at $r(150) = .240, p < 0.05$, Agreeableness and Conscientiousness are both negatively correlated to FBA at $r(150) = -0.067$ and $-0.027, p > 0.05$ respectively. Neuroticism is significant at $r(150) = 0.218, p = 0.007$.

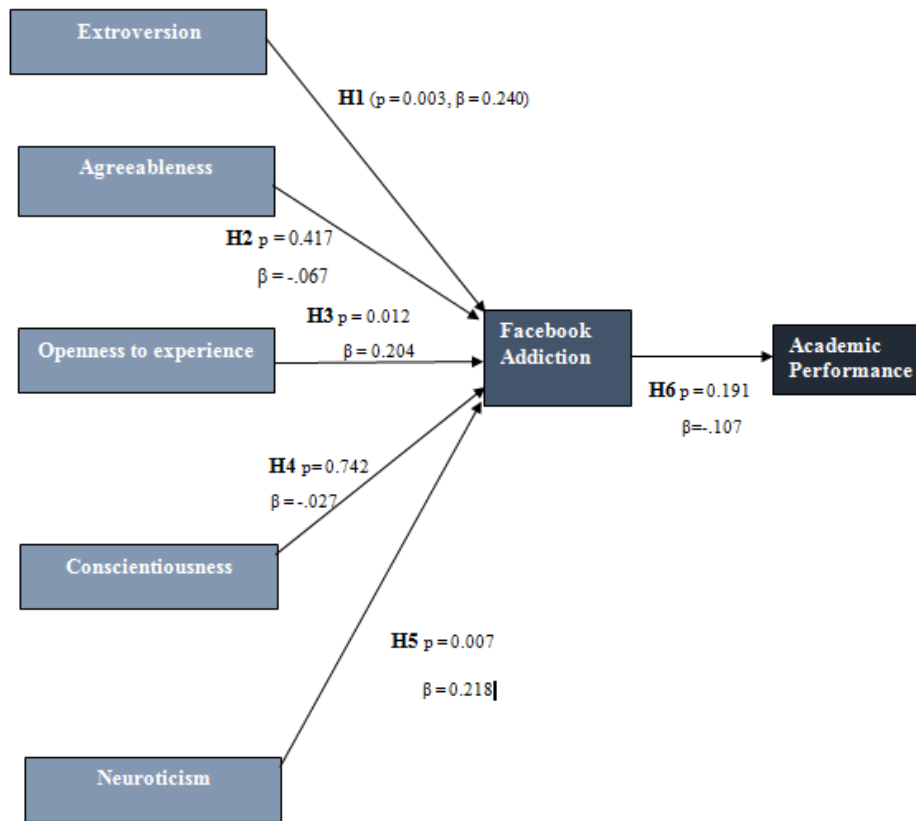
ii. Linear regression analysis

Table 8: Regression analysis

Hypothesis	Model Variables	Adj R ²	F	Beta	t-value	P-value	Results
H1	Ext → FBA	0.051	0.051	.240	3.010	0.003	Significant
H2	Agr → FBA	-.002	0.663	-0.067	-.814	0.417	Insignificant
H3	Open → FBA	.035	6.429	0.204	2.536	0.012	Significant
H4	Consc → FBA	-.006	0.109	-0.027	-0.027	0.742	Insignificant
H5	Neu → FBA	.041	7.368	0.218	2.714	0.007	Significant
H6	FBA → Acad.Per	.005	1.727	-.107	-1.314	0.191	Insignificant

(FBA=FACEBOOK ADDICTION)

iii. Structural Model



d) Hypothesis Testing

i. Hypotheses 1

The hypotheses postulate that Face book Addiction is positively correlated to extroversion. High extroversion has high chances of being addicted to Facebook.

The hypothesis developed is as below:

H1: Face book Addiction is positively correlated with extroversion.

Here, the value of R2 is 0.051, depicting 5.1% of variance in overall evaluation of Facebook Addiction which is described by predictor variable (Extroversion). The value of f-test is 9.063 showing the model goodness of fit. T value is greater than +2 indicating a positive relationship between variables. Hence H1 is accepted ($\beta=0.240, p < 0.05$). The results show there is a positive, significant relationship between extroversion and Face book Addiction. (Hughes, D.J., Rowe, M., Batey, M. and Lee A., (2012)

ii. Hypotheses 2

The second hypothesis developed is as follow:

H2: Agreeableness negatively affects Face book Addiction

According to the results of the study, there is a negative, insignificant relationship between agreea-

bleness and face book addiction. ($\beta= -.067, p > 0.05$). This means that there is negligible relevancy between the two variables. (Moore, K. and McElroy, J.C., (2012).

iii. Hypotheses 3

H3: High Openness to experience positively affects Face book Addiction.

Results depict that there is a positive significant relationship between openness to experience and Facebook addiction ($\beta=0.204, p < 0.05$). The value of t is greater than +2 indicate that there is a positive relationship between variables and thus, H3 is validated. This is in accordance with the previous researches as (Moore, K and McElroy, 2012).

iv. Hypotheses 4

The next hypothesis discusses the relation between FBA and Conscientiousness. It is as below:

H4: Conscientiousness is negatively associated to Face book Addiction.

Highly conscientious people are not addicted to Facebook. The hypothesis is rejected on the basis of a statistically insignificant relation between conscientiousness and FBA. ($\beta= -.027, p > 0.05$). (Ross, C.Orr,E., Sistic, M., Arseneault, M., Simmering., and Orr, R.(2009).

v. *Hypotheses 5*

The hypothesis assumes that there is a positive relation between neuroticism and face book addiction.

H5: Neuroticism positively affects level of Face book addiction.

The hypothesis is accepted on the basis of a positive relation between FBA and Neuroticism ($\beta = 0.218$, $p < .05$). The t value is also greater than +2 and $F = 7.368$ tells the goodness of the model. This is supported by the research done by Moore, K and McElroy, (2012).

vi. *Hypotheses 6*

H6: Face book Addiction and Academic Performance are negatively correlated.

The measure of academic performance taken was the academic percentage of students of the department of Management Sciences, IUB. The results depict that there is no relationship between Face book ($\beta = -1.07$, $p > 0.05$). The hypothesis is statistically insignificant. This result supports the findings of Vanden Boogart, Karpinski and *Duberstein*, *Kirschner* and *Karpinski* and *Junco*, (2010).

V. DISCUSSION

This paper measured the affect of the Big Five Factor Model on student Facebook addiction and the affect of that on Academic performance. It was measured by providing the respondents a semantic differential type of questionnaire and the Bergen Facebook Addiction Scale. Of the traits variables incorporated in the BFFM, extraversion was found to be highly significant to FBA suggesting that people who are extroverts and outgoing spend a lot of time using and thinking about Facebook. This is supported by the results of Ryan and Xenos and Moore and McElroy who also found a positive association between extraversion and Facebook use but is opposing to the findings of Ross et al, Amichai-Hamburger and Vinitisky and Hughes et al. who found no association involving Extraversion and Facebook use. People who are social, cheerful, talkative and active are referred to as extroverts. Our study confirms the possibility of such people being prone to use excessive facebook and become addicted to it. Furthermore, our results also show the positive relationship between facebook addiction and both neuroticism and openness to experience. It is quite true that users who are not emotionally stable tend to be more engaged in such activities in order to get rid of their problems. Also, those who are looking for newness and innovation are engaged in more Facebook use which is understandable. Conscientiousness was also found to have no significant relationship with FBA. As people who are conscience are closer to the ethical and moral values of the world and have the knowledge of right and wrong

thus, the hypothesis was not accepted. However, there was no relationship found between student's academic performance and Facebook Addiction. This is supported by the research done by Vanden Boogart, Karpinski and Duberstein, Kirschner and Karpinski and Junco and is dissimilar to the results of Kolek and Saunders and Pasek et al.,. The verity that the answers in this study lend support to the negative relationship between Facebook Addiction and Academic performance suggests that more research is reasonable to not only authenticate these findings but to gain a better insight of how Facebook Addiction affects academic performance. No relationship between personality variables and academic performance was found.

VI. LIMITATIONS

While the reason for this research was exploratory in character, there remain various constraints.

- First, the respondents were selected from a solitary scholarly foundation and may not be illustrative of the bigger scholar populace. Self-report measures scholastic exhibitions were gathered.
- A more steady system might be to gain real learner GPA and an exact measure of Facebook utilization.
- A better measure might be to record the time used on genuine exercises on Facebook and explore how these exercises are identified with scholastic execution.
- Other data, for example, how frequently the scholars were on Facebook while concentrating on may shed all the more light on why scholastic execution was easier for people who invested more of a chance on Facebook.
- There were cost constraints as being a student it was not possible to conduct research on a vast scale.
- Also, limited time was provided for conducting the research and we had to finish it within a specified time frame.
- The sample size was limited, only 150, which may have resulted in the inability to collect a large pool of people with varying personalities.
- Variations in the results could be because no such previous research has been done on Pakistani nationals and there was limited resource material available.
- Respondents were not from other areas of interest which may have affected the results somehow.

VII. RECOMMENDATIONS AND CONCLUSION

The research could be conducted on a major scale in order to get some valuable results. Also, a validate measure of BFF should be used which is easily

comprehended by the respondents Ample time should be provided to the research scholar to conduct such type of research. The study should be carried on a vast scale using a large sample size in order to validate results and analysis. It should not be restricted to the boundaries of any city or institution as every individual has a separate identity and personality traits that differentiate them so it might also affect the findings of the research.

Academic performance could be measured in terms of other variables apart from just percentage to increase the validity. It is seen that with the passage of time, the use and demand for social networking sites is increasing thus, there is a constant need to explore and work on this area as it is of significant importance in the demanding world of today. Also, there is a growing concern among parents about their children scoring low on tests due to excessive Facebook use so such as study should not just be confined to one country rather it should also be implemented in Pakistan.

The real ramifications of this study are the finding that Facebook use is adversely identified with scholastic execution. The way of the relationship may be significantly more perplexing than the basic supposition that learners who invest more of a chance on Facebook likewise invest less time considering and finishing scholarly work. Time on Facebook may supplant exercises that are not of a scholastic nature however none the less may have an effect on scholarly execution, for example, up close and personal correspondences with associates or the amount of hours that people rest. More research ought to be led to investigate how time used on Facebook is identified with the life style of scholars and how the different aspects of a learner's life style are identified with scholarly execution. This may shed light on what sort of mediations may be taken to help understudies whose association with Facebook may put them at scholarly hazard.

Additional research is required to figure out what exercises people participate in while on Facebook, the amount time they use on every movement and whether those distinctive exercises impact scholastic execution. It may not be the aggregate time used on Facebook that is the most vital measure but instead the time used on specific exercises on Facebook that have a more straightforward impact on scholastic execution. Recognizing the distinct exercises might likewise give a wealthier environment to study how identity variables influence Facebook use.

The trouble directing this exploration is that most studies depend on report toward oneself measures of time used on Facebook and the sorts of exercises that the subjects participate in. With current innovation, the capacity exists to catch this information electronically additionally raises significant security issues.

All in all, the finding that the time used on Facebook is adversely identified with people's scholastic execution is of noteworthy imperativeness. The use of Facebook is broad among people and reviews recommend that the measure of time that scholars use occupied with social networking is expanding every year. In the event that this relationship holds, it may be normal that numerous people won't perform at their scholastic potential. A superior understanding of the elements that impact Facebook use and the part that Facebook use plays in scholastic execution may highlight on what moves may be made to help scholars attain their potential.

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ANNEXURE

QUESTIONNAIRE

Facebook Addiction: A Study of BIG Five Factors and Academic Performance amongst Students of IUB

Dear Respondent

This study is being conducted by Ms. **Shanayara Mahmood**, BBA 8th student at **Department of Management Sciences**, The Islamia University of Bahawalpur. The major objective of the study is to explore the impact of different variables on academic performance. Students from the Department of Management sciences, IUB are selected for the said study. I assure you that any response you make will remain confidential and only used for study purpose.

Please read the following statements and mark accordingly.

Name: _____ (Optional)

Gender: Male Female

Age: Below 20 years 20-30 years 30-40 years Above 40 years

Qualification: Inter Bachelor Masters MS/M. Phil PhD Other

Income: Below Rs.10, 000 Rs.10,000-15,000 Rs.15,000-20,000 Above Rs.20,000

Last Examination marks: _____

CGPA (if applicable): _____

Previous Academic percentage: _____

THE BIG FIVE LOCATOR

Instructions : On the given scale, indicate which statement best describes your personality. Mark '3' for neutral. E.g, 5 for eager and 1 for calm.

1.	Eager	5 4 3 2 1	Calm
2.	Prefer Being with other people	5 4 3 2 1	Prefer Being Alone
3	A Dreamer	5 4 3 2 1	No Nonsense
4	Courteous	5 4 3 2 1	Abrupt
5	Neat	5 4 3 2 1	Messy
6	Cautious (careful)	5 4 3 2 1	Confident
7	Optimistic	5 4 3 2 1	Pessimistic
8	Theoretical	5 4 3 2 1	Practical
9	Generous	5 4 3 2 1	Selfish
10	Decisive	5 4 3 2 1	Open ended
11	Discouraged	5 4 3 2 1	Upbeat (cheerful)
12	Exhibitionist (show-off)	5 4 3 2 1	Private
13	Follow Imagination	5 4 3 2 1	Follow Authority
14	Warm	5 4 3 2 1	Cold
15	Stay Focused	5 4 3 2 1	Easily Distracted
16	Easily Embarrassed	5 4 3 2 1	Don't Give a Darn
17	Outgoing	5 4 3 2 1	Cool
18	Seek Newness	5 4 3 2 1	Seek Routine
19	Team Player	5 4 3 2 1	Independent
20	Preference for Order	5 4 3 2 1	Comfortable with Chaos (confusion)
21	Distractible(easily disturbed)	5 4 3 2 1	Unflappable (composed)
22	Conversational	5 4 3 2 1	Thoughtful
23	Comfortable with Ambiguity	5 4 3 2 1	Prefer Things Clear-Cut
24	Trusting	5 4 3 2 1	Skeptical
25	On Time	5 4 3 2 1	Procrastinate (delay)

FACEBOOK ADDICTION SCALE

Instructions: Score on the following basis

1 : Very rarely, 2: Rarely, 3: Sometimes, 4: Often, 5: Very often

Spent a lot of time thinking about Facebook or planned use of Facebook	1	2	3	4	5
Thought about how you could free more time to spend on Facebook	1	2	3	4	5
Thought a lot about what has happened on Facebook recently	1	2	3	4	5
Spent more time on Facebook than initially intended	1	2	3	4	5
Felt an urge to use Facebook more and more	1	2	3	4	5
Felt that you had to use Facebook more and more in order to get the same pleasure from it	1	2	3	4	5
Used Facebook in order to forget about personal problems	1	2	3	4	5
Used Facebook to reduce feelings of guilt, anxiety, helplessness, and depression	1	2	3	4	5

Used Facebook in order to reduce restlessness	1	2	3	4	5
Experienced that others have told you to reduce your use of Facebook but not listened to them	1	2	3	4	5
Tried to cut down on the use of Facebook without success	1	2	3	4	5
Decided to use Facebook less frequently, but not managed to do so	1	2	3	4	5
Become restless or troubled if you have been prohibited from using Facebook	1	2	3	4	5
Become irritable if you have been prohibited from using Facebook	1	2	3	4	5
Felt bad if you, for different reasons, could not log on to Facebook for some time	1	2	3	4	5
Used Facebook so much that it has had a negative impact on your job/studies	1	2	3	4	5
Given less priority to hobbies, leisure activities, and exercise because of Facebook	1	2	3	4	5
Ignored your partner, family members, or friends because of Facebook	1	2	3	4	5

