

# Exploring the Influence of Big Five Personality Traits on Social Media Addiction among Pakistani University Students

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## ABSTRACT

**Aim of the Study:** The current study looks into the causes of social media addiction, with a focus on how university students' use of social media is influenced by their Big Five Personality characteristics. Though social media addiction is a global issue, similar trend of surge in social media usage among university students is observed in Pakistan as well.

**Methodology:** Using probability sampling, a multistage cluster sampling method was applied to gather data from NUML Islamabad. The population was segmented into clusters, including University, Faculty, Departments, and Degree levels (PhD, MS, and BS). The data was collected through a self-administered. A total of 240 students participated, with ages ranging from 18 to 35. Among the respondents, 43.75% were male (N=105), and 56.25% were female (N=135).

**Findings:** The study reveals that extraversion and neuroticism predict social media activities among them. The students who are more inclined towards extraversion are more interested in entertainment and social interaction. Also, the students are fond of liking and commenting on other social media users' social media activities. Similarly, those university students who scored high on neuroticism are also more inclined towards social engagement, information sharing and seeking, and interacting with other social media users.

**Conclusion:** Although, the study confirms consistent results with earlier researches, however, the study reveals that extraversion and neuroticism increase likelihood of social media usage addiction whereas conscientiousness among social media users serve as a factor that has a negative impact on social media use addiction.

**Keywords:** Big Five Personality Traits, Social Media Usage, Social Networking Sites, Social Media Addiction.

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## 1. INTRODUCTION

Due to advent of social media and its continuous upgradation in features, social media usage has dramatically been increased during the last decade (Kizgin et al., 2018). The range of options and its widely accessibility has made it a popular medium for social interaction (Boulianne, 2017; Alam et al., 2023; Ali & Nasir, 2023). According to available recent information, globally 4.95 billion people are social media users till 2023, whereas, it is estimated that the number will reach up to as close as six billion by the year 2027 (Statista, 2023). Likewise, social media usage in Pakistan is expanding speedily with 82.90 million internet users as of January 2022 as Pakistan's internet penetration rate has touched 36.5% of the country's entire population by early 2023. (Statista, 2023). Additionally, till January 2023, there were approximately 71.70 million social media users in Pakistan (Statista, 2023). The influence of social media is evident in how it has transformed communication methods, access to information, and interactions among people. It has become an essential part of modern culture and plays a crucial role in business, industries, political systems, and society at large (Kamruzzaman, 2022).

Social networking sites refer to particular platforms that enable users to create public profiles and establish online social networks within a technological framework. Examples of these sites include Facebook, Instagram, X, Snapchat, and YouTube (Boyd & Ellison, 2007; Jalal & Tariq, 2023; Safdar & Abbasi, 2020). It is important to highlight that in academic literature, the terms 'social media' and 'social networking' are often used interchangeably, as noted by Griffith (2013). In this study, platforms like Facebook, Instagram, Twitter, Snapchat, and YouTube are considered as social media. While there are certainly numerous benefits to using social media, overuse of these platforms can lead to adverse effects. Indeed, some researchers have described social media as addictive because of its potential influence on users' behavior (Kircaburun et al., 2020).

Recent research on social networking platforms and addiction indicates that these sites are mainly utilized to sustain social interactions and connections. The desire to stay connected with friends, acquaintances, peers or other social media users is termed as a major aspect of excessive usage of social media (Kuss & Griffiths, 2011). Scholars have identified various other motivations for using social media, such as information seeking and sharing, entertainment seeking, relationship building and maintenance, passing leisure time, companionship, and social interaction that add to addictive behavior of social media users (Ryan & Xenos, 2011). Researchers, additionally, have identified various other aspects including individual preferences, personal reasons for using social media, and different socio-psychological components, that can lead to social media addiction (Andreassen et al., 2012). Previous research also identifies these personal tendencies play a significant role on addictive behaviors (Kuss & Griffiths, 2012).

The five basic aspects of a person's characteristic are highlighted by the Big Five Personality model. The personality traits include extraversion which is related to those people who are talkative and enjoy interacting with others, agreeableness is a trait related to those who are reliable, honest, lenient, and merciful. Conscientiousness is related to those who are systematized, accountable, and driven to achieve goals, neuroticism are those people who exhibit low tempered and self-esteem, and high anxiety; and openness to experience are those people who are innovative, creative, and inquisitive about new experiences (Costa & McCrae, 1992).

According to recent studies, characteristics of a personality potentially influence excessive use of technology. Further, multiple researches have considered studying personal qualities and social media usage (Kircaburun & Griffiths, 2017; Orchard et al., 2017). Previous research has also demonstrated the importance of characteristics of personality in determining social media engagement, technology usage and its implementation (Rauniar et al., 2014; Syed et al., 2020; Hafeez et al., 2020). The probability of a person developing a social media addiction might be influenced by the personality traits such as if a person is suffering from anxiety or has low confidence, he might be more inclined towards social media addiction (Jung et al., 2007). Contrary to this, those who are disciplined and organized might be less

likely to develop social media addiction as their social media consumption will be more controlled and moderate, leading to fewer distraction in their routine (Andreassen et al., 2012; Blackwell, 2017). The university students are considered as a group that is more adapted towards emerging technologies and developments. This is why, the university students were selected for the sample of the study. Previous studies also suggested that youngsters, primarily students, are prone to addictive behaviors due to frequent social media usage in routine (Dhir & Tsai, 2017; Sirola et al., 2019; Throuvala et al., 2019).

According to previous research, using social media excessively during academic pursuits might cause issues like decreased study time, distraction, and poor academic achievement (Bianchi & Phillips, 2008). While social media provide benefits like, social interaction, information sharing, relaxation and entertainment, there has been limited research its adverse effects especially on young generation. Scholars agreed that although emerging studies suggest a connection between big five personality traits and social media addiction, this field of study is still in its infancy and needs further research to fully comprehend social media addiction and the components that contribute to it (Koc & Gulyagci, 2013)

By examining the ways in which distinct personality traits influence social media addiction, this study aims to fill this gap. It seeks to increase our understanding of this issue and provide empirical evidence on university students' compulsive usage of social media, which will enhance the social media research literature.

### ***1.1 Theoretical Framework and Development of Research Questions***

According to Allport (1961), personality can also be described as a dynamic system that results in distinct patterns in a person's ideas, feelings, and behaviors. A conceptual framework known as the Big Five-Factor Model was created by psychologists (Costa & McCrae, 1992; Goldberg, 1990; John & Srivastava, 1999). Research indicates that this five-factor approach can be used to simplify and organize all personality assessments (Goldberg, 1990)

The Big Five personality model is a broadly recognized framework in personality theory, comprised of five major traits, extraversion, neuroticism, agreeableness, conscientiousness and openness to new experiences (Costa & McCrae, 1992).

**Openness to New Experience:** Described as being open to innovative concepts and experiences, seeking out novelty, possessing a broad interest in cultures, and being intellectually curious. It indicates a respect for artistic undertakings, a willingness to try new things, and a voracious appetite for knowledge.

- i. **Extraversion:** Marked by assertiveness, friendliness, talkativeness, enthusiasm, optimism, and high energy. It signifies an individual's inclination towards sociability, positive emotions, and an eagerness for excitement and lively experiences.
- ii. **Neuroticism:** Characterized by anxiety, tension, worry, insecurity, guilt, and emotional instability. It reflects a tendency toward psychological distress and heightened sensitivity to perceived threats.
- iii. **Conscientiousness:** Defined by responsibility, self-discipline, reliability, stability, success, ethical behavior, thorough planning, organization, diligence, and punctuality. It represents an individual's level of orderliness, perseverance, and attentiveness to detail.
- iv. **Agreeableness:** Described by cooperativeness, compassion, personal warmth, and concern for others' feelings and needs. It involves interpersonal behavior marked by traits such as trust, empathy, and collaboration.

The Big Five factors are progressively acknowledged as dependable and valid reflections of personal tendencies within a hierarchy of personality traits (Costa & McCrae, 1992; Digman, 1990; Goldberg, 1990; James & Mazerolle, 2002).

### ***1.2 Big Five Personality Traits and Social Media Usage***

Numerous studies have investigated the connection between personality traits and online behavior, indicating that individual psychological attributes notably affect social media usage. Research has found a positive correlation between openness to experience and social media engagement. Individuals high in openness are more active in online social interactions and utilize social media's networking features more extensively (Ross et al., 2009)

In comparison to people who are less open, they also typically post more personal information and have a greater number of connections on social networking sites (Moor & Elroy, 2012).

It has been noted that extroverted people typically have more friends and wider social networks. According to Zhou et al. (2018), the extroverts share content, update status on social media more often in a quest to get engaged other social media users in terms of acquire getting likes, receiving messages or comments and bag post/ tweet shares from them. The practice demonstrates that extrovert social media users utilize social media primarily for social interaction, information spreading, and sharing of ideas instead of physical meetings. According to Correa et al. (2010), those social media users who have neurotic traits are more likely to be vivid social media users; interacting and engaging other social media users online.

According to Amichai-Hamburger and Vinitzky (2010) social media usage is linked with neuroticism as those social media users who have higher levels of neuroticism tend to update their social media status more frequently as compared to those social media users who have lower neuroticism level, proposing neurotic social media users express themselves by updating social media status. Additionally, in the previous studies, it has been discussed that there is a negative correlation between social media usage and conscientiousness. The fact is further elaborated as conscientious people are more disciplined, well-organized, ambitious, and hardworking (Marino et al., 2016).

Likewise, agreeableness and social media engagements have also been discussed in previous researches. For instance, Amichai-Hamburger and Vinitzky (2010) found that agreeableness is positively associated with commenting on social networking sites. Agreeable individuals are more inclined to post positive and friendly comments on others' profiles and photos (Wilson et al., 2010). However, some studies have found no significant link between agreeableness and social media use (Moor & Elroy, 2012; Shabir et al., 2014).

### ***1.3 Big Five Personality Traits and Social Media Addiction***

Andreassen and Pallesen (2016) describe SNS addiction as an excessive preoccupation with social networking sites, driven by a strong compulsion to log on or engage with them, leading to significant time and effort devoted to these platforms that disrupts other social activities, academic or work commitments, personal relationships, and overall psychological well-being (p. 4054). This definition aligns closely with Griffiths (2005) behavioral addiction model, which includes social media addiction as it meets the following six core components:

- i. **Salience:** The online activity, such as logging into Facebook, becomes central to the individual's life and dominates their thoughts constantly.
- ii. **Tolerance:** The person spends much more time on social media than initially planned due to an inherent urge to use it more frequently to achieve the same level of satisfaction.

- iii. **Mood Modification:** Social media is used to escape personal issues and reduce feelings of guilt, restlessness, anxiety, sadness, and helplessness. Engaging in specific social media activities changes or boosts their mood.
- iv. **Withdrawal:** The person experiences uncomfortable physical and emotional symptoms when access to social media is restricted or stopped. They may become agitated, stressed, anxious, or irritable if they cannot use social media.
- v. **Relapse:** Despite attempts to reduce social media use, the individual disregards advice to cut down and continues to use it excessively.
- vi. **Conflict:** The individual prioritizes social media over academic, professional, recreational activities, and relationships with family and friends, leading to neglect of these important areas of life.

Numerous studies validate this definition, suggesting that compulsive and uncontrolled social media behavior can be analyzed through a behavioral addiction framework (Ryan et al., 2014). Kuss and Griffiths (2011) discovered that extensive social media use leads to several adverse effects, including challenges in real-life interactions, diminished academic performance, and relationship difficulties.

Recent research has identified a positive correlation between extraversion and neuroticism and excessive social media use, while conscientiousness shows a negative correlation (Seidman, 2013). Highly extroverted individuals are more prone to excessive social media use, often utilizing it for social engagement, whereas introverts might use it for social compensation. Nevertheless, both extroverts and introverts display excessive social media use (Griffiths, 2005). Furthermore, low conscientiousness significantly predicts addictive behaviors (Ryan et al., 2014), as individuals with low conscientiousness may use social media to procrastinate (Correa et al., 2010; Shabir et al., 2014a; Khan et al., 2018).

Findings also show that social media addiction is positively related to neuroticism. Individuals high in neuroticism may turn to social media for support and often spend more time on these platforms compared to face-to-face interactions because they can more easily conceal their true selves online (Ross, 2009). Seidman (2013) found that low conscientiousness and high neuroticism are strong predictors of self-presentational behaviors, while high agreeableness and neuroticism are significant predictors of behaviors and motivations related to belongingness.

Given this discussion, the following research questions are proposed:

**RQ-1:** How do Big Five personality traits influence social media usage?

**RQ-2:** How do Big Five personality traits predict addictive social media usage?

## 2. METHODOLOGY

The study focused on students from National University of Modern Languages, Islamabad as the sample population. The university students were chosen due to their alignment with the research criteria. This demographic is considered highly relevant because they represent the youth segment, which is potentially more influenced by social media content. University students were selected due to their frequent social media use, relatively limited real-life experiences, and developing reasoning abilities. Using probability sampling, a multistage cluster sampling method was applied to gather data. The population was segmented into clusters, including University, Faculty, Departments, and Degree levels (PhD, MS, and BS). The data was collected through a self-administered survey conducted in March 2023. A total of 240 students participated, with ages ranging from 18 to 35. Among the respondents, 43.75% were male (N=105), and 56.25% were female (N=135).

Participants completed a paper-and-pencil survey. The researcher provided a thorough explanation before the survey began and ensured participant anonymity. The questionnaire included demographic questions and the following measures: A custom scale was developed to assess social media usage, comprising four

activities: 1) information sharing, 2) social interaction, 3) likes and comments, and 4) entertainment. Each activity included four items. For example, information sharing (e.g., “I use social media to share new ideas and knowledge”), social interaction (e.g., “I use social media to stay in touch with family and friends”), likes and comments (e.g., “I use social media to comment and like my friends' posts”), and entertainment (e.g., “I use social media for enjoyment”). Responses were rated on a 5-point Likert scale: 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (always).

To assess personality traits, the Ten-Item Personality Inventory (TIPI) was used. Developed by Rammstedt and John in 2007, this scale includes 10 items to measure the Big Five traits. For instance, the extraversion dimension is evaluated through statements such as “I see myself as extraverted, enthusiastic” and “I see myself as reserved, quiet” (the latter is reverse-coded). The TIPI is designed to be completed quickly, with responses rated on a 5-point Likert scale: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree

Social media addiction was measured using the Bergen Social Media Addiction Scale (BSMAS), developed by Andreassen et al. in 2016. The BSMAS consists of six items that align with the diagnostic criteria for addiction, based on Griffiths' (2005) behavioral addiction model. Each item corresponds to one of the six components: salience, mood modification, tolerance, withdrawal, conflict, and relapse. For example, salience is measured by “Spent a lot of time thinking about social media or planning its use?” Participants rated each item on a 5-point Likert scale: very rarely (1), rarely (2), occasionally (3), often (4), and very often (5)

### 3. FINDINGS

To evaluate the impact of personality traits on social media activities, a regression analysis was conducted using SPSS version 21. The dependent variables included various social media activities: information sharing, social interaction, entertainment, and likes and comments. The independent variables were the five personality dimensions.

The analysis indicated that neuroticism had a positive correlation with social interaction ( $\beta = .326$ ,  $p < .01$ ), entertainment ( $\beta = .182$ ,  $p < .05$ ), and likes and comments ( $\beta = .251$ ,  $p < .01$ ).

Additionally, extraversion positively affected social media activities. Individuals high in extraversion were more engaged in social interaction ( $\beta = .251$ ,  $p < .05$ ), entertainment ( $\beta = .326$ ,  $p < .05$ ), and likes and comments ( $\beta = .182$ ,  $p < .05$ ).

The results are summarized in Table 1.

Table 1: *The Influence of Big Five Personality Traits on Social Media Usage*

	Information sharing		Social Interaction		Entertainment		Comments & likes	
	$\beta$	P	B	p	$\beta$	p	$\beta$	p
Agreeableness	.118	.119	-.070	.261	.081	.323	.054	.270
Openness	-.183	.223	.057	.421	-.018	.649	-.082	.389
Extraversion	.083	.335	.326*	.01	.182*	.021	.251*	.01
Neuroticism	.321*	.01	.158*	.027	.085	.345	.143*	.021
Conscientiousness	.089	.238	.053	.767	-.063	.231	.064	.424
R <sup>2</sup>	.047		.074		.093		.057	
F		2.038*		3.816**		5.121**		2.652*

p < .05, \*\* p < .01, \*\*\* p < .001

To investigate the impact of personality traits on social media addiction, a regression analysis was conducted. The independent variables were the five personality dimensions, and the dependent variable was social media addiction. The analysis revealed that conscientiousness was negatively related to social

media addiction ( $\beta = -.186$ ,  $p < .05$ ), whereas both extraversion ( $\beta = .246$ ,  $p < .05$ ) and neuroticism ( $\beta = .066$ ,  $p < .01$ ) were positively associated with social media addiction.

The results are summarized in Table 2.

Table 2: *The Influence of Big Five Personality Traits on Social Media Addiction*

Big Five Personality Traits	Social Media Addiction	
	B	p
Agreeableness	.071	.460
Openness	.078	.235
Extraversion	.246*	.013
Neuroticism	.066**	.010
Conscientiousness	-.186*	.012
R <sup>2</sup>	.137	
F	5.981**	

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

#### 4. DISCUSSION AND CONCLUSION

This study's main objective was to evaluate the relationship between personality traits—conscientiousness, extraversion, agreeableness, neuroticism, and openness—and social media addiction. The findings showed a favorable correlation between social media involvement and extraversion. Extraverted people were more likely to engage in social interactions, watch entertainment, and leave comments on other people's posts. Their intense need for interaction, talkativeness, and sociability is probably what motivates them to behave this way. According to other studies, social networking sites may be the source of the link between extraversion and addictive behaviors by providing for the social need of extroverts (Blackwell, 2017).

Social media has inbuilt characteristic of offering users to network, discuss and interact with one another. The extrovert social media users can effectively use these built-in traits of social media and get recognition and affirmation (Ehrenberg et al., 2008). Additionally, previous studies disclose that students use social media for seeking and sharing knowledge and information through social media and frequently interact with other social media users with higher levels of neuroticism (Moor et al., 2012; Ryan, 2011). According to research, social media users are generally more friendly and social, curious, adaptable, and caring while those people who possess personality traits like conscientiousness, agreeableness, and openness to new experiences are less likely to get involved excessively on social media (Wilson et al., 2010).

The second main goal of the study was to figure out personality traits that can accurately predict social media addiction. The findings of the study indicate that people with low conscientiousness and high levels of extroversion are more inclined towards using social media and developing addiction. The findings are in line with previous studies (Kircaburun, 2020; Kuss & Griffiths, 2013), which discovered that university students who are extroverts are more likely to become addicted to excessively using social media. The extroverts have strong urge to interact as many people as possible which leads them to be active on social media and commence various online activities causing them to spend an increasing amount of time on these platforms (Hwang, 2017).

Likewise, the study finds a positive correlation between neuroticism and social media addiction. The people who have neurotic tendencies, including suffering from stress, anxiety, or depression are more likely to take more interest on spending their time on social media. One of the possible reasons of neurotic people using social media excessively is that social media provides ease of usage and comfort as compared to real world, where handling emotions and managing self-worth is a daunting task (Blackwell, 2017).

The study further reveals that conscientiousness has a strong negative relationship with social media addiction as the people who are well organized and disciplined are less likely to be associated with spending excessive time on social media which reduces the likelihood of developing addiction for social media (Kircaburun et al., 2020). Similarly, previous studies have also highlighted that people with higher levels of conscientiousness are less likely to be addicted to social media (Ahmed & Tan, 2022; Andreassen et al., 2012; Błachnio & Przepiorka, 2016).

The study reveals a linkage between particular personality traits like extraversion, conscientiousness, and neuroticism and social media addiction offering empirical support for the theory. These findings underscore the importance of future research to study into the underlying reasons for the connection between particular personality traits and social media addiction. Gaining knowledge about the causes of social media addiction in some people as compared to others will clarify the complex relationship of personality traits and social media addiction.

Practical implications of the study include raising awareness among policy makers, educationists and other stakeholders about the social media addiction so that the information be transmitted effectively to university students and beyond. The findings can also contribute in the study of audience engagement and help the advertising sector target online audiences more successfully

However, there are several limitations to consider. The study employed a cross-sectional design, which may not provide a comprehensive view of social media addiction among young people. Future research should use longitudinal designs for a deeper understanding. Additionally, self-report measures were used, which can be subject to social desirability and inaccuracies. Future studies could benefit from real-world data and content analysis to obtain more objective results.

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## Conflict of Interest


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