

Relationship between Dark Triad and Engagement in Social Networking Sites among University Students

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Abstract

This research examined the Dark Triad Personality factors, namely Machiavellianism, narcissism, and psychopathy in the online realm specifically focusing on university students' participation in Facebook and Instagram. The sample consisted of three hundred and fifty undergraduate students, with ethical considerations ensuring the confidentiality and anonymity of participants and emphasizing the voluntary nature of participation. In this study, the methods employed are correlational and cross-sectional, to understand the association between the dark triad and the use of social networking sites among students aged between 18 and 25 years old. Study subjects were purposively selected using the purposive sampling technique. Participants filled out surveys that included Machiavellianism, Narcissism, and Psychopathy related items and Facebook and Instagram usage involvement. The present study reported that Dark Triad traits (Machiavellianism, Narcissism and Psychopathy) have a considerable contribution in social networking site (SNS) activities and adverse online activities. Demographic factors were also analyzed as important variables in usage of Facebook and Instagram, as well as the level of Psychopathy among users. The evidence shows that the intensity of the three traits, dark triads of personality, is directly related to the degree of engaging in manipulative and self-promoting activities online. The study also analyzed the discrepancies in SNS engagement and Dark Triad traits in relation to gender.

Keywords: Dark Triad, Machiavellianism, Narcissism, Personality, Psychopathy, Social Networking Sites, University Students

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Introduction

The integration of social networking sites (SNSs) into everyday social life has had far-reaching consequences on one's psychological dynamics, more so for teenagers and young adults. These systems allow for the rapid dissemination of

information and networking while at the same time providing ease in accessing global connectivity (Kirik, 2015). The ability to interact extensively with users through Facebook, Instagram, Twitter, etc., social networking sites has turned out to be quite a pertinent channel for expressing oneself and interacting with people (Boyd & Ellison, 2007). Social networking systems (SNSs) have positive aspects like enhancing social bonds and contributing to emotional wellbeing; nonetheless, the upsurge in their use has raised concerns regarding addiction and adverse psychological outcomes associated with it (Przybylski et al., 2013).

Several emerging studies suggest that a number of particular individual characteristics, particularly personality traits falling within the subfactors of Dark Triad personality (narcissism, Machiavellianism

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and psychopathy) seem to be related with addictive use or compulsive traits of SNS (Paulhus & Williams, 2002). People with such personalities are likely to use social networks not for building interpersonal relationships, but to fulfill their dysfunctional needs such as control and validation. For example, narcissistic users are in need of admiration and recognition, whereas Machiavellian users use SNSs for manipulation. Also, people with psychopathic tendencies may act on the internet in a spur of the moment or socially unacceptable way if they want to “have it now” (Rauthmann, 2012).

SNS usage is prevalent in today’s day and age with over one billion global users, including 700 million daily users on Facebook. Within social media networking, this research focuses primarily on Facebook and Instagram with each boasting over one billion active monthly users (Dixon, 2024). The location demographic of this study is limited to Pakistan so popular platforms such as X, formerly known as twitter, was not viable since its usage is banned nationwide. These widespread SNSs offer this study the opportunity to investigate how various personality traits manifest within online communication.

Patterns of engagement in SNS should be viewed as complex, as motivations for using these sites include, but are not limited to, self-esteem, the need for social acceptance, and the need for self-realization (Cao et al., 2013). Fulfilling basic needs or what is required at any given time is very important, particularly when using social networks, where people can freely showcase themselves, socialize with others, and create networks (Cao et al., 2013). There is, however, another tenable perspective: disturbing engagement, which entails an overwhelming frequency of usage and dependence on SNS for daily activities and

mental health quality, which is negative (Przybylski et al., 2013; Reer et al., 2019).

This study aims to understand the relationships between dark triad personality traits and social networking sites network behaviors among young adults with specific focus on Pakistani university students. The youth adopt the most active stance with due regard to social networking sites, as seen in their quest to belong with peers, the pursuit of timeliness in meeting expectations around them, and the openness in viewing how such traits are displayed online (Hu & Lan, 2023). Knowing this relationship is important for developing strategies that encourage this population to interact on online platforms in a more healthful manner and to improve their mental health (Hu & Lan, 2023). The research is thus helpful as it situates the findings in a culturally specific context, enhancing understanding of how personality and SNS engagement interrelate.

This research draws focus on the convergence of Dark Triad characteristics and impression management techniques that take place in virtual settings, bridging gaps between social perception and virtual impressions. Online Impression Management refers to an active attempt by people to manage how other people see them on the internet (Ellison et al., 2006). Most narcissistic people present a great deal of self-promotion online influenced by their preferences and they often use social networking sites channels to promote an image they have cultivated for themselves in their mind, rather than who they really are. They want to get positive attention and boost their self-esteem, so they manipulate the audience by selectively publishing only what shows their good sides (Judson et al., 2017; Lee, 2019).

As evidence from Gerbner’s Cultivation Theory supports the argument that there is great risk involved in indulgence in curated media content for an extended amount of

time because it reshapes our perceptions of reality. Gerbner famously stated, "The more time people spend watching television, the more likely they are to believe in the social reality presented on television, regardless of its accuracy." Such people with dark triad personalities have narcissistic tendencies, often creating a distorted narrative that aligns with their self-serving agendas. This helps them to portray a selective presentation of themselves, promoting a narrative that benefits their social standing and reinforces their manipulative tendencies (Jones & Paulhus, 2014).

1. Either the effects of social media on personality or only survey of relationships.

Fixed by Focusing on One Aspect

This behavior is further explained by Social Comparison Theory that asserts that people always self-assess their potential and social standing by comparing themselves to others (Festinger, 1954). Among Dark Triad personalities, individuals with high narcissistic tendencies often use upward social comparisons applying self-promoting tactics to paint a better image of themselves (Fox & Moreland, 2015). Such individuals present tailored content, trying to seek admiration and validation and with the objective of enhancing their self-worth and social status among the audience online (Judson et al., 2017).

Lastly, the idea of Digital Dualism ponders at the dichotomy between online and offline reflection of self, specifically in regard to the affected individuals with Dark Triad tendencies. These people tend to distort the boundaries of their online and offline identities, leveraging the anonymity and distance provided by online platforms to refine manipulative behaviors (Beer, 2008). This way of living allows them to modify behaviors that they would not be comfortable exhibiting in real life therefore spanning their true identity and online presence further apart

(Jones & Paulhus, 2014).

Research Questions

1. Is there a relationship between the Dark Triad personality traits (Machiavellianism, narcissism, and psychopathy) and the level of engagement in social networking sites (SNSs) among university students?
2. Are gender differences present within Dark Triad traits and engagement in social networking sites?
1. Need to be mention research question or hypothesis.

Method

Research Design

Relative to the objectives, an appropriate research design was selected, which incorporated a cross-sectional correlational design. This design was used to analyze and describe the association between Dark Triad personality traits and usage patterns of Instagram and Facebook social media networks among university students. Several studies indicate that narcissistic individuals are likely to engage in self-promotion actions and use likes and comments as social approval, while Machiavellians tend to be strategic social manipulators to serve their self-interests (Jones & Paulhus, 2014). The objective was to study them within the psychological framework to assess their effects on the levels of engagement and activity in social networking platforms.

Participants

University students were involved in the sample aged between 18-25. The total sample size was three hundred and fifty students. Due to time and resource constraints, purposive sampling was conducted, which targeted active Facebook and Instagram users to increase the relevance of the data to the study. These Participants were given a variety of questionnaires, including Short Dark Triad Scale, Passive and Active Use Measure, Instagram Intensity Scale, and Facebook Psycho-Social Activities Scale, which

enabled them to integrate different aspects of their behavior on social networks.

Demographic Information

Information with regards to age, gender as well as the academic year and most frequently used SNSs was provided by the participants with an aim of seeking variations in SNS patterns of the participants. The study also collected data on participants' primary social networking sites to contextualize findings based on preferred site usage.

Mention demographic variables here

Measures

The specific Dark Triad trait being assessed was primarily done by utilizing the Short Dark Triad (SD3) developed by Jones and Paulhus (2014). The internal consistency of the scale is acceptable, with alpha values ranging from 0.71 for narcissism and 0.80 for psychopathy which indicates moderately to high reliability. This instrument consists of 27 items that measure three distinct personality traits using 5-point scale (1 = Strongly Disagree to 5 = Strongly Agree) which includes narcissism, Machiavellianism and Psychopathy (Jones & Paulhus, 2014).

Passive and Active Use Measure (PAUM)

The PAUM was used in this research to make distinction between the passive usages (e.g., scrolling, liking) and the active ones (for example, posting, commenting) across social networking platforms where these individuals frequently interact with their peers and followers. In this study, the PAUM utilized 12 items with adequate internal consistency ($\alpha = 0.65-0.81$) that provided results for the use of the following two modes. This comprised two distinct sets of questions that elicited responses (Wirtz et al., 2020) to classify users into two categories i.e., passive users' engagement with the SNS content and active users' engagement with the SNS content.

Instagram Intensity Scale

Responses to the Instagram Intensity Scale which encompasses an 8- item scale of 1

(Strongly Disagree) to 5 (Strongly Agree) indicates the level of emotion and social involvement on Instagram which was reported to have a Cronbach's alpha of 0.83 (Tiggemann & Slater, 2014). Strong scores show high engagement and identification with the community of Instagram users.

Facebook Psycho- Social Activities Scale- (FPSAS)

The FPSAS was deployed in order to cover several dimensions of Facebook engagement including self-representation, self-compensation, and self-addiction amongst many other activities of Facebook. This scale had good internal reliability with alpha coefficients of between 0.76- 0.92 for different subscales making it appropriate for measuring psycho-social implications of SNS use (Andreassen et al., 2017).

Procedure

Self-report surveys were used for the data collection procedure, which were distributed among university students. A prior briefing was conducted concerning the objectives of the study to promote the concepts of informed consent and transparency. Participants were made aware of the fact that they could withdraw from the data collection procedure at any time they wished, and this was conducive for the ethical compliance of the research confidentiality. Data anonymity was maintained by excluding personal identifiers from the responses, which were securely stored for analysis.

Ethical Considerations

The study met the requirements of ethical conduct of research in full. Informed consents were given where participants were informed of the text, scope, aims and objectives, and the rights that were guaranteed to them; these being confidentiality and anonymity. There were no deceptive features in the study and the interests of the subjects were protected in all phases of research (APA, 2017).

Statistical Analysis

For data analysis, SPSS software (version 25) was used. Shapiro-Wilk's test of Normality was performed to find whether the variables being measured are parametric or non-parametric. Independent Sample T- test was performed to investigate the gender differences in relationship of Dark Triad personality traits with usage of SNS, in the variables found to be non-parametric. Mann Whitney U was performed to investigate the gender differences in relationship of Dark Triad personality traits with usage of SNS, in

the variables found to be parametric. In addition, Pearson's correlation of the Dark Triad traits with the time spent on social networking sites was carried out. Coefficients and p values were computed in order to test the degree of the associations and direction. The findings are expected to assist in understanding the lack of or successful relations between personalities and social network sites and where implications were required to promote better social network use.

Table 1
Characteristics of Participants (N=350)

Variables	<i>f</i>	(%)	<i>M</i>	<i>SD</i>
Age	-	-	20.84	1.53
Gender			-	-
Male	190	54.0%	-	-
Female	160	46.0%	-	-
Year of Study			-	-
Freshmen	89	25.0%	-	-
Sophomore	113	32.0%	-	-
Junior	75	20.0%	-	-
Senior	73	21.0%	-	-

A description of the characteristics of the sample of the study has been summarized in Table 1. The age of the subjects under study was between the ages of 18-25 with the average age sounding at 20.84 years ($SD = 1.53$). Out of the total sample, 190 were males constituting the majority (54 %) and 160 females (46 %). The largest group

pertaining to the participants was comprised of the 2nd year students, also referred to as sophomore students which constituted 32 % of the total participants, students in their first year of study constituted 25%, students in their third year constituted 21% and the least number were those in their last year of study who constituted 20.8%.

Table 2

Correlations between Dark Triad Traits, Instagram Usage, Facebook Usage and Passive and Active Usage (Passive and Active) (N=350)

Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Dark Triad Traits	78.50	12.28	----	.17**	.26**	.26**
2. Instagram Usage	39.61	9.56	----	----	.57**	.53**
3. Facebook Usage	59.49	16.01	----	----	----	.49**
4. Passive and Active Use	38.27	8.12	----	----	----	----

Note: *** $p < .001$; ** $p < .01$

The effect of Dark Triad Traits on passive and active SNS usage as presented in Table 2 of this study is positively correlated: it can be inferred from the table that Dark Triad Traits correlate with active and passive use of social networking sites. Statistically significant Pearson's correlation coefficients associated Dark Triad Traits positively with the use of Instagram as shown on the "Instagram Intensity Scale" ($r = 0.17$, $p < .001$) as well as the use of Facebook evaluated in terms of Utilization measured by "Psycho-social

Aspects of Facebook Usage Measure" ($r = 0.26$, $p < .001$). Correlations for passive and active SNS usage were however one of the highest ($r = 0.26$, $p < .001$). Similarly, Facebook usage also showed strong correlations with both passive and active dimensions ($r = 0.49$, $p < .001$). Such findings draw attention to a trend where Dark Triad traits, are associated with specific modes of SNS engagement which would convey important insight about online behavior.

Table 3*Pearson's Correlation between the Scales and sub-scales of Dark Triad (N=350)*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Machiavellianism	29.8	6.07	-	.29*	.38**	.26**	.19**	.28**	.17**	.19**	.09	.13*	.21**
2. Narcissism	26.3	5.14	-	----	.26**	-.01	.13**	.11*	.15**	.13*	.23**	.22**	.09
3. Psychopathy	22.3	5.40	-	----	----	.11*	.07	.15**	.16**	.06	.09	.17**	.05
4. Compensatory Usage	16.6	5.33	-	----	----	----	.49**	.50**	.56**	.43**	.28**	.18**	.22**
5. Self-Presentation	18.8	5.89	-	----	----	----	----	.47**	.49**	.51**	.38**	.24**	.28**
6. Socializing and Seeking Sexual Partners	13.4	5.07	----	----	----	----	----	----	.48**	.34**	.38**	.24**	.26**
7. Facebook Addiction	10.5	3.90	----	----	----	----	----	----	----	.54**	.44**	.26**	.27**
8. Instagram Intensity	39.6	9.56	----	----	----	----	----	----	----	----	.51**	.21**	.45**
9. Active Social Usage	15.3	4.29	----	----	----	----	----	----	----	----	----	.40**	.47**
10. Active Non-Social Usage	9.6	3.33	----	----	----	----	----	----	----	----	----	----	.10
11. Passive Usage	13.2	3.17	----	----	----	----	----	----	----	----	----	----	----

Note: *** $p < .001$; ** $p < .01$

The correlations among Dark Triad traits and various dimensions of SNS engagement highlighted some of the significant associations as well. Compensatory Use, defined as using SNSs to address offline insecurities, was positively related to Machiavellianism ($r = 0.23$; $p < 0.01$), which was also the case for Psychopathy ($r = 0.11$; $p < 0.05$) but the relationship was not statistically significant for Narcissism ($r = -0.015$, not significant). Self-presentation on social networking sites was positively associated with Machiavellianism ($r = 0.19$, $p < 0.01$), Narcissism ($r = 0.13$, $p < 0.01$), and

Psychopathy ($r = 0.07$; $p = 0.141$, not significant). Social interactions and the pursuit of romantic partners among users of social networks were associated with Machiavellianism ($r = 0.28$, $p < 0.01$), Narcissism ($r = 0.11$, $p < 0.05$) and Psychopathy ($r = 0.15$, $p < 0.01$). In addition, the addiction to Facebook was significantly associated with Machiavellianism ($r = 0.17$, $p < 0.01$), narcissism ($r = 0.15$, $p < 0.01$), and psychopathy ($r = 0.16$, $p < 0.01$) as well. The Instagram intensity scale, reflecting the frequency and depth of engagement, correlated positively with Machiavellianism ($r = 0.19$, $p < 0.01$), Narcissism ($r = 0.13$, $p < 0.01$), and

0.05), and Psychopathy ($r = 0.06$, not significant).

Table 4

Mean Difference in Passive and Active Usage (N=350)

Variable	Active Users (N=180)		Passive User (N=170)		<i>t</i>	Cohen'd
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Engagement in Social Networking Sites	15.30	4.29	14.89	3.17	1.01	0.11

Note: *** $p < .001$; $df=348$

The Table 4 indicate that there is no significant difference among passive and active usage.

Table 5

Mann-Whitney U Test for Gender Disparities in Non-Parametric Variables (N=350)

Variables	<i>Gender Rank Mean</i>		<i>U</i>	<i>Z</i>	<i>p</i>
	<i>Men (N=190)</i>	<i>Women (N=160)</i>			
Dark Triad	192.37	155.47	11995	-3.40	0.001*
Narcissism	184.05	165.34	13575	-1.72	0.084
Psychopathy	192.19	155.68	12028.5	-3.36	0.001*
Instagram Usage	159.8	194.15	12216.5	-3.16	0.002*
Facebook Usage	175.99	174.92	15107.5	-0.09	0.922
Compensatory Usage	176.61	174.18	14989	-0.22	0.823
Self-Presentation	171.52	180.23	14443.5	-0.80	0.422
Socializing and Seeking	184.33	165.02	13522.5	-1.78	0.075
Facebook Addiction	172.61	178.93	14651	-0.58	0.559
Active Non-Social Usage	186.69	162.21	13074	-2.26	0.02*
Passive Usage	162.71	190.68	12770.5	-2.58	0.01*

Gender Disparities in Non-parametric Variables were also found particularly using the Mann-Whitney U tests. Significant differences were found for Dark Triad ($U = 11995$, $Z = -3.40$, $p = 0.001$), 2. Psychopathy ($U = 12028.5$, $Z = -3.36$, $p = 0.001$), 3. Instagram Usage ($U = 12216.5$, $Z = -3.16$, $p = 0.002$), 10. Active Non-Social Usage ($U = 13074$, $Z = -2.26$, $p = 0.024$), and 11. Passive Usage ($U = 12770.5$, $Z = -2.58$, $p = 0.010$), showed significant gender-based differences. It was rather surprising that several variables

such as 1. Narcissism, 4. Facebook Usage, 5. Compensatory Usage, 6. Self-Presentation, 7. Socializing and Seeking, 8. Facebook Addiction, and 9. Active Social Usage indicated no substantial differences between genders ($p > 0.05$). These results suggest that while gender could be the most salient variable that accounts for why people's engagement with social networking sites differs, it does not determine whether individuals engage passively or actively with social networking sites or the overall psycho-

social impacts that emerge from these uses. This further suggests that there is a necessity to explore how gender operates subtly in digital media practices, especially beyond

Discussion

This study was set out to explore the relationship between Dark Triad traits namely Machiavellianism, narcissism, and psychopathy and social networking site (SNS) engagement among university students. The study also investigated gender disparities among these traits and the behaviors found to be associated with them. The results obtained in the course of this study are consistent with the existing literature and confirm that there exists a relationship between engagement with Dark Triad and any given aspect of SNS use (Zhang & Zhao, 2020). Cultivation theory can be quite relevant here as it seeks to explain this phenomenon: constant usage of the SNSs leads to a change in an individual's worldview (Gerbner et al., 2002).

The study observed that people who scored highly on Dark Triad traits were more prone to self-presentation and online (SNSs) behavior typically associated with Facebook addiction. The third subscale, the Facebook addiction subscale, checked the psychosocial determinants of the use of the platform and this scale also showed significant positive correlation with Machiavellianism, narcissism and psychopathy. All of this is consistent with the observations of Brant (2024) in which she stated that after prolonged SNS exposure, many people had egos that were inflated, and there was a distorted self-image. This has been referred to as "main character syndrome." The self-presentation subscale also indicates that individuals high in Dark Triad traits are more likely to have an enhanced view of themselves when interacting with others on the internet which promotes social comparison, which explains why we share

intensity of use and towards psycho-social attributes.

information that shows us in a positive light (Festinger, 1954).

The results also provided more evidence for the theory of digital dualism, which claims that people have a different online behavior thanks to the mask and distance created by the internet (Beer, 2008). Respondents holding high C4-C7 subscale of compensatory Facebook use reported doing online things that they would not do otherwise offline. For example, "On Facebook I feel less pressured to be what others want me to be" and "I spend time on Facebook chatting with people, who I do not know very well in my offline life" were found to have strong association with Dark Triad traits. Prior studies, such as those done by Sumner et al. (2012), who looked at similar patterns in online engagement, report similar results.

The second hypothesis which predicted differences in engagement in social networking sites and Dark Triad traits across genders was also validated. Such findings correspond to those of (Koc & Demir, 2024), who noted gender-based trends in social networking sites addiction. Barberis et al. (2023) further substantiate this where they observed gender variances in SNS usage though their population was largely female. In the current research, this gap was addressed by encompassing more or less equal proportion of both sexes so that a wider perspective of Dark Triad traits through SNS behaviors from across individuals of different sex is brought out.

In line with the current review, the present study extended studies done earlier which depict the presence of dark triads who exhibited compensating excessive SNS use, self-presentation and socialization with

minimal or no offline social activities. As in the findings of Sparavec et al. (2022), people having dark triad attributes tend to have manipulative and aggressive self-serving online behavior as well. In addition, psychopathic tendencies exhibited strong significant correlations with trolling and cyberbullying behavioral aspects which are antisocial in nature. This concurs with Lopes & Yu (2017) who identified certain worrying behavioral patterns with those possessing high psychopathy scores. The study also showed some distinct patterns in SNS engagement behavior which was related to Machiavellianism and narcissism. These patterns were highly associated with compensatory Facebook usage and Instagram intensity as supported by the study of Petit and Carcioppolo, (2020). These participants were more inclined to distort their self-image for their specific goals related to cyberspace. Most narcissism has to do with presenting the self. Thus, this research done by Servidio et al. (2024) should have a connection because narcissists also use SNS to manifest the perceived superiority of the individuals. The findings from the study also offer additional views about the way about the Dark Triad personality tends to affect the general use of SNS accounts. For instance, high levels of psychopathy were positively associated with passive and active SNS engagement such as stalking profiles or content posting seeking validation. Confirmed by Hussain et al. (2021) and Nikbin et al. (2022), these Dark Triad tendencies are associated with detrimental patterns of internet use among people. Furthermore, the link between narcissism and self-presentation is consistent with the results of Sindermann et al. (2018) who noted that the people with this characteristic are determined to communicate an over idealized self to others.

In addition, this study established a significant relationship between the Dark

Triad characteristics and some deviant online behaviors, particularly, the quest for sexual partners or cyber aggression. These findings corroborate with that of Reer et al. (2019) that aimed to study the underlying motives for online behaviors among individuals high on these traits. It reinforces findings observed by Jabłońska and Zajdel (2020) that the level of Machiavellianism is positively related to intensity of Instagram usage by remarking that such people are good at using social networking for self-promotion and manipulation - which is what they tend to do. The findings demonstrate the ubiquitous effect of Dark Triad characteristics on SNS usage. These traits exhibited significant positive correlations with various SNS use dimensions, including Facebook addiction, Instagram intensity, and compensatory use. These findings adhere to earlier studies such as those of Williams et al. (2009) and that of Petit and Carcioppolo (2020) that showed that people high on the Dark Triad traits were more likely to develop unreasonable internet exposure habits.

The research further extends existing literature by presenting new findings on the effect that gender has on the relationship between Dark Triad traits and SNS engagement. Such gender-specific trends are in conformity with earlier observations made by Nitschinsk et al. (2022) and Lopes & Yu (2017) who also explored analogous patterns in online behavior.

Conclusion

The present study examined the Dark Triad with a specific interest into social networking sites and their use, including immediate differences in relation to gender. More specifically, this study establishes that Dark Triad traits – Machiavellianism, Narcissism and Psychopathy – correlate positively with specific types of social networking sites related behaviors on Facebook and Instagram, whether these are active or passive. Individuals exhibiting elevated Dark

Triad traits demonstrate high engagement, highlighting potential psychological and behavioral predispositions. The differences related to gender were the most pronounced. The analysis with the use of independent sample t-test and Mann-Whitney U confirmed that gender has a significant effect on the Dark Triad (Psychopathy and Machiavellianism), Instagram usage, passive usage, active non-social usage of social networking sites, while there were no statistically significant differences regarding Narcissism, Facebook usage, passive and active usage, active usage and psychosocial characteristics of Facebook. Thus, these findings indicate there are different types of engagement and psychological motivations underpinnings that drive gender-based differences. For example, the stronger relationship between Dark Triad traits and the use of Instagram suggests that those individuals with the self-promotional tendencies associated with comparisons over these traits especially due to Instagram and social norms. Societal culture and other contexts may also further in raising the gendered representation of the traits, therefore these contexts require further examination. The findings of the study help better understand the unique relationship between specific personality features and usage of a certain social network platform. This is vital in dealing with the implications on the psychological well-being of the user due to pervasive social networking use. These frameworks provide valuable guidance in constructing approaches to reducing adverse effects, including the enhancement of mental health and the responsible approach to internet use. In addition, the noted differences in gender also create a need for further studies that will explain how men and women engage in these activities. Expanding this research to include diverse demographic settings will refine its applicability, offering a broader

perspective on the intersection of personality, gender, and digital behaviors.

Limitations and Suggestions

The limitations have however hindered a number of research objectives, but the research still has a number of useful findings. Correlational research does not allow making claims concerning cause and effect relationships, but rather uncovers patterns that could be worth further exploration. The reliance on self-report surveys introduces potential biases, yet these data provide foundational knowledge for future research. The narrow age range (18–25) restricts the external validity of the results, but the research emphasizes the need to know how students in universities operate. Incorporating longitudinal designs could establish causality, while diverse, randomized samples would enhance reliability and make the research more valid. Integrating objective metrics such as using data from the actual social networking sites could be useful in the biases and provide further context. Other studies should examine how culture and socioeconomic status affect Dark Triad traits and interactions of users with social network environments. Such enhancements may aid in the development of focused interventions and enhance current work in psychology and behavioral science. Such results may also be useful to the policy makers and educators in encouraging safe and responsible use of the internet.

Contribution of Authors

Fatima Muhammad: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft
 Uzma Ashiq: Methodology, Writing - Reviewing & Editing, Supervision

Conflict of Interest

There is no conflict of interest declared by the authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [F.M.] upon the reasonable request.

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