

Social Media Usage and the Dark Triad Traits among Undergraduate students- An Exploratory Study

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Abstract: Excessive Social media Usage (SMU) among young adults has proven to be a cause for concern, research being conducted in order to elucidate upon the same. The current study hypothesized a possible link between dependent social media usage and the presence of dark personality traits (DT3), namely Narcissism, Psychopathy, and Machiavellianism. Using a descriptive correlation study design, scales for measuring SMU and DT3 were administered among a purposive sample of 441 students. The scales used were the "The Dirty Dozen Questionnaire" and "Social Media Use Questionnaire" for measuring DT3 and SMU respectively. The findings of the study indicated that there was a significant positive correlational relationship between SMU and the DT3. In addition, significant gender differences were observed in SMU, Machiavellianism (M), Psychopathy (P) and Dark Triad (DT3). The implications of the findings are discussed. Further probe into the nature of the relationship between SMU and DT3 on various domains was recommended.

Key words: Social Media Usage (SMU), Dark Triad Traits (DT3), Machiavellianism, Psychopathy, Narcissism

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Introduction

In India, social media usage (SMU) reached an all-time high in 2025, with 491 million people, or more than 33.7% of the population, using social media (Howe, 2025). Among the top four social media apps are Whatsapp, Instagram, Facebook, and Telegram. According to the data, Indians are using social media for an average of two hours and twenty-eight minutes per day, which is 1.2% more than they were a year ago (a two-minute increase). In light of the growing prevalence of the Internet throughout time as well as additional variables like price and accessibility, SMU in India is only slated to rise. Consequent to such trends the possibility of compulsive and addictive social media behaviour is eminent. Excessive SMU may be explained by general addiction models which factor in i) pleasure seeking ii) compulsive usage with a failure in usage control iii) emotional disturbances caused due to a noticeable break in usage (Kircaburun et al., 2019; Casale & Banchi, 2020).

Narcissism and SMU

Narcissism is defined as entitlement, self-absorption, self-importance, unrealistic expectations of oneself, and a proclivity for self-enhancement. The literature sheds insight on the relationship between narcissism and addictive social media use, particularly given narcissists' need for ongoing validation (Tang et al., 2022), which leads them to rely on social media, where positive reinforcement is easily received. Given how prone narcissists are to self-promotional behaviors such as selfie taking (Balta et al., 2019), this frequently leads to

addictive usage (Tang et al., 2022). Casale and Banchi (2020) discuss how social media platforms expedite the narcissist's shift from regular to a severely dependent user. McCain and Campbell (2018) provide a meta-analytic analysis of the "sticky" characteristics of social media platforms for narcissists using three models. According to the self-enhancement paradigm, social media is an excellent platform for meeting self-improvement needs. In order to constantly farm self-affirming feedback, the narcissistic individual would seek a somewhat suitable atmosphere for garnering respect and esteem, potentially leading to addictive behavior. The second model is a fit model that looks at the relationship between narcissism and SMU through the lens of the numerous interpersonal ties that might provide as a source of validation and admiration. Given that narcissists value quantity above quality in interpersonal relationships, social media platforms meet this exact demand. As a result, a narcissistic user may feel it more validating to have a high number of followers and connections with other people with high impact on the same site. The trait model is the third approach to narcissism highlights the online behaviors of both grandiose and vulnerable narcissists. While both have increased SMU, vulnerable narcissists are more concerned with impression management (i.e., carefully curating content for their profile), whereas grandiose narcissists are motivated by reward rather than punishment and thus will generate more content (particularly self-promotion). As a result, it is clear that the relationship between Narcissism and SMU is mediated by a persistent search for self-affirming and validating inputs, which explains why the likelihood of addictive consumption is so high.

Machiavellianism and SMU

Machiavellianism, named after Niccoló Machiavelli, an Italian Renaissance political counselor, is associated with manipulation, deception, and exploitation for personal advantage (Jonason and Webster, 2010; Necula, 2020). In terms of social media use, these individuals have been linked to high levels of online gambling, cyberbullying, and problematic online gaming. Machiavellians, who are characterized by emotional detachment, will engage in strategic behaviour that prioritises their interests while influencing others (Jones & Paulhus, 2009). According to Kumpasoğlu et al. (2021), social media users with high machiavellianism tend to utilize impression management tactics to maintain a positive image among a larger audience. Machiavellianists are less impulsive than narcissists and psychopaths (Jones & Paulhus, 2011), preferring long-term goal achievement over short-term satisfaction, which may be related to motivation for employed impression management and self-promotion for a positive image (Tang et al., 2022; Kircaburun et al., 2019). Machiavellianists, like narcissists, may favor online over offline relationships due to their poor agreeableness, high emotional manipulateness, and low emotional intelligence, which leads to addicted social media use (Kircaburun & Griffiths, 2018). Furthermore, social media can be a form of distraction from the poor mood and stress associated with machiavellianism, potentially leading to problematic and addictive use (Kircaburun & Griffiths, 2018).

Psychopathy and SMU

Aydın et al. (2021) identify psychopathy as characterized by belittling, ridiculing, remorse, impulsive behavior, shallow partnerships, and difficulty maintaining long-term relationships. According to Hudon et al., 2025, when exhibited on digital platforms, these characteristics show up as enduring antisocial tendencies such as taking advantage of other people, acting maliciously, and exhibiting a flagrant disrespect for social norms, all of which add to what scholars have heterogeneously referred to as violence in cyberspace or "cyberpsychopathy". For the purposes of this study, we will use the term psychopathy because we see it as a subset of the Dark Triad rather than a separate entity. In terms of reasons for psychopathic behavior in online contexts, the online disinhibition effect has been documented to be one of the leading motivations behind actions such as online trolling, digital abuse, planning phishing scams, and disseminating false information, among other hazardous acts (Hudon et al., 2025; de Jesus Costa et al., 2023; Wu et al., 2023).

The Present Study

The present study aims to explore the associations between Dark Triad traits and Social Media Usage

(SMU) among undergraduate students in Indian context. In addition, the study also aims to explore gender differences in the prevalence of Dark Triad personality traits and social media usage among undergraduate students in India.

Method

Research Design

The present study deployed descriptive correlational design (Schutt R. K, 2012. pp. 159-185). The study's population consisted of 54722 undergraduate students enrolled in BA, BSc, BBA and B.Com programs at autonomous colleges under Osmania University.

A purposive sample of 441 (322 females, 119 males) undergraduate students were recruited from four autonomous colleges in Hyderabad.

Description of tools

Socio- Demographic questionnaire: Participants were asked to provide their demographic details at the beginning of the questionnaire. This included their age, gender, family type, birth order, mother tongue, economic status, religion, education qualification, employment status, sexual orientation, relationship status.

The Dirty Dozen: developed by Jonason and Webster (2010), is a 12-item questionnaire designed to measure the Dark **Triad** personality traits: Narcissism, Machiavellianism, and Psychopathy. Participants rate their agreement with statements about their thoughts and behaviors on a 9-point Likert scale (1 = Strongly Disagree to 9 = Strongly Agree), yielding trait scores ranging from 4 to 36. The scale demonstrated high reliability, with Cronbach's α score ranging from .72 to .94 (mean α = .90) and mean item-level temporal reliability scores of .92 (Machiavellianism), .84 (Psychopathy), and .92 (Narcissism).

Social Media Use Questionnaire: With regards to gauging the social media dependence among the study sample (Xiandis & Brignel, 2016). Given its recent construction, this 9 item scale makes for a suitable option to quantify social media dependence. SMUQ adopts a 5 point likert scale ranging from 0 (**never**) to 4 (always) to collect responses from statements given. Xanidis and Brignell (2016) performed internal reliability analysis of the SMUQ, reporting a score of Cronbach's α = .83 for the Withdrawal component and α = .82 for the Compulsion component. For all items of the SMUQ, an even higher Cronbach's α was reported, α = .87.

Procedure

Permissions to conduct research were obtained from four autonomous colleges under Osmania University (Loyola Academy Degree & PG College, St. Ann's College for Women, St. Pious X Degree, PG & MBA college for Women, St. Francis). The researchers used an inclusion criteria i.e., undergraduate students pursuing non-

professional courses (BA, BSc, B.com and BBA). Written informed consent forms were obtained from a purposive sample of 441 (males- 119, females- 322). Consequently, the study sample was assessed on the measures of Social Media Usage questionnaire and the Dirty Dozen. The responses of aforementioned scales were collected through Google forms from platforms Whatsapp and email.

Results

The descriptive statistics were analyzed for Social Media Use and Dark Triad Traits, including Machiavellianism, Psychopathy, and Narcissism (Table 1). To evaluate normality for each continuous variable, histograms and normal Q-Q plots were also inspected. Jamovi software was used for data analysis.

Discussion

To our knowledge, the relationship between Social Media Usage and Dark Triad Traits is being explored for the first time in India. Data analysis includes missing values, normality, and extreme scores among the variables- DT3 and SMU. For most statistical analyses, the sample size (N) was specified. Continuous variables were summarized using mean, median, and standard deviation, along with Shapiro-Wilk's W and p (see Table 1). Non-parametric tests including Spearman's rho (see Table 2), and Independent t-Test (Welch's test) for gender differences (see Table 3), were employed due to the non-normal distribution of variables.

The findings of the present study support the existing literature that a significant, positive correlation exists between Dark Triad **personality** traits and social media use among undergraduate students ($R_s = .31, p < .001$; see Table 2). Individuals with these malevolent personality characteristics appear particularly attracted to social media environments because these platforms provide opportunities for self-enhancement, manipulation, and antisocial behaviors while offering perceived anonymity and control. The findings align with research demonstrating that intensive social media use is closely associated with individual psychological characteristics and personality dimensions (Andreassen et al., 2017; Brailovskaia et al., 2020). Overall, current findings underscores the critical importance of incorporating personality-based vulnerability factors, particularly the three dark personality traits, when investigating and understanding problematic social media behaviors among young adults.

A statistically significant, though weak positive correlation was found between the trait of Narcissism and Social Media usage among undergraduate students ($R_s = .28, p < .001$; see **Table 2**). This positive association may be explained by the tendency of individuals high in narcissism to rely excessively on social media platforms

(Mihriban Akkoz & Oytun Erbaş, 2020), seeking to fulfill psychological needs such as self-importance (Lopes & Yu, 2017), garner attention and appreciation (Casale & Fioravanti, 2018), and attain social status (Andreassen et al., 2017). Self promotion and self presentation, central features of narcissism, have been shown to drive increased engagement with social media platforms (Buffardi & Campbell, 2008). Zhou et al. (2012) argue that social relationships serve narcissists' need to maintain their self-esteem and self-worth. This leads to pronounced reliance on social media which may contribute to fluctuations in self-esteem, fostering both inferiority and superiority complexes (Sabir et al., 2020) typical of narcissistic individuals.

The Spearman's rho (R_s) **correlation** indicated a significant positive correlation between the trait of Machiavellianism and Social Media Usage among undergraduate students ($R_s = .31, p < .001$; see Table 2). Despite the association being weak, existing literature suggests that Machiavellianism's positive relationship to self-expression motivation are belied by Machiavellian tendencies of manipulation, deceit and exploitation as it is likely they rather present false information about themselves (Jonason et al., 2014). Machiavellianism predicts self-oriented goal pursuit on social media (Rosenberg & Egbert 2011), and thus, it can be said that Machiavellians choose possible victims from social media in order to achieve their goals. Machiavellianism has also been linked to problematic social media use (Kircaburun, Demetrovics, et al., 2018), trolling in online games (Kircaburun & Griffiths, 2018), and behaviors like online self-monitoring and self-promotion (Abell & Brewer, 2014). Partly due to their fear of social rejection (Rauthmann, 2011), Machiavellians may prefer social media and gaming platforms to engage in interpersonal manipulation or deceptive self promotion (Abell & Brewer, 2014; Kircaburun & Griffiths, 2018).

Spearman's rho correlation revealed a significant, albeit weak, positive correlation between the trait of psychopathy and social media usage among undergraduate students ($R_s = .15, p = .001$; see Table 2). These findings are consistent with prior research (Kircaburun et al., 2018; Kagan **Kircaburun** & Mark D. Griffiths, 2018). Psychopathy involves antisocial and thrill-seeking behaviors, impulsivity, and lack of empathy, traits that may contribute to problematic social media use characterized by excessive and compulsive engagement (Kircaburun et al., 2018). Individuals high in psychopathy may engage in problematic online behaviors to fulfill sexual desires and enhance mood, potentially exacerbating problematic social media use (Kagan Kircaburun & Mark D. Griffiths, 2018).

Welch's independent t-test was utilized to examine gender differences across the variables. In addition to gender, the

Kruskal-Wallis test was **applied** to 10 other demographic details of the participants which showed no significant differences in the variables of DT3 and SMU. However, Table 3 results indicate significant differences among males and females on Machiavellianism, Psychopathy, DT3 and Social Media. However, no significant gender differences were observed in Narcissism.

Research consistently demonstrates that men score significantly higher than women across all three Dark Triad dimensions. Males' higher scores on these traits are tied to **manipulation**, callousness, and strategic exploitation, which are aligned with traditional masculine roles emphasizing dominance and competition. These traits are also evolutionarily rooted in behaviors related to mating and social dominance (Saurabh & Akanksha, 2025).

Machiavellianism, based on the present study's results, shows that men scored higher on this trait than women, indicating greater manipulative, strategic, and socially **dominant** tendencies among males. This particularly reflects stronger antagonism and social dominance motives, which are important aspects of Machiavellianism, rooted both in biological predispositions and social factors (Collison et al., 2020). Additionally, gender differences in Machiavellianism are nuanced by distinct emotional and personality correlates. For example, women's Machiavellianism is linked to anxious, harm-avoidant, and hypersensitive traits, while men's Machiavellianism is associated with risk-taking, self-confidence, and opportunism, emphasizing differing psychological underpinnings between sexes (Czibor et al., 2017).

The gender differences observed are consistent with extensive research showing that psychopathy occurs more frequently and with higher severity in men compared to women (Wynn et al., 2012). Men show overt psychopathic tendencies such as antisocial and criminal behaviors (de Vogel & Lancel, 2023). Social norms and cultural context influence the perception and manifestation of psychopathy more in men. Certain anti-social behaviors such as aggression are more socially tolerated towards men. Women's psychopathic tendencies are covert, often accompanied by higher emotional instability, verbal aggression and self destructive tendencies affecting diagnosis and recognition of psychopathy in women (Wynn et al., 2012; de Vogel & Lancel, 2023). The study aligns with broader research showing men display more psychopathic tendencies than women, likely because these traits are more overt and easier to observe in men.

Studies examining gender differences in narcissism consistently find only negligible or non-significant differences, with both men and women engaging in self-presentation and attention-seeking tendencies (Buffardi

& Campbell, 2008; Fox & Rooney, 2015; McCain et al., 2016). Meta-analyses demonstrate that while men scored marginally higher in general narcissism, these gender differences disappear in specific online behaviors such as posting selfies or pursuing online validation, as digital platforms promote and normalize narcissistic traits across both males and females (Casale, Fioravanti, & Rugai, 2016; Fox & Rooney, 2015). Shifting social norms narrows the traditional gender gap between men and women, and renders small statistical gender differences less **meaningful** in practical terms (Sorokowski et al., 2015; Fox & Rooney, 2015). Importantly, reliance on traditional questionnaires such as the Narcissistic Personality Inventory limits detection of subtle contextual differences, as these tools are designed for offline traits and may not fully capture the nuanced differences of narcissism in social media environments (McCain et al., 2016).

Empirical evidence indicates that excessive engagement with social media is more commonly observed among females than males (Andreassen et al., 2017; Morshidi et al., 2019), a pattern that aligns with the outcomes of the present study. Given that women are generally characterized by stronger social orientations than men, they may exhibit a heightened **susceptibility** to developing addictive tendencies toward activities that facilitate social interaction. Social media platforms, by design, provide continuous opportunities for such interaction, thereby amplifying this vulnerability (van Deursen, Bolle, Hegner, & Kommers, 2015).

Conclusion

The findings of the research indicate a significant relationship between the Dark Triad and the usage of Social Media.

The predominant gender differences except in Social media, inadvertently bring in skewed results; conducting a survey on a much more balanced sample would possibly eliminate such a possibility. The reliance on self report measures, which may be influenced by biases and social desirability, potentially leading to inaccuracies in assessing personality traits and social media usage, and the subtle trait differences among genders.

Non - probability sampling has the potential for biased participant selection, because it depends on the researcher's judgment to choose individuals who meet specific criteria, often resulting in underrepresentation of people whose characteristics or experiences fall outside those predefined parameters. It is advisable for future research to comprehensively assess social media usage by considering the different social media use across the different platforms. This expanded scope will enable a more detailed and accurate capture of user behavior across various platforms and contexts, overcoming

limitations of studies that focus on social media usage as a broad variable. This study stands out as one of the few that draws its sample from non-WEIRD (Western, Educated, Industrialized, Rich, and Democratic) populations (Henrich, Heine, & Norenzayan, 2010). This distinction, along with descriptive association between social media use and Dark Triad traits, constitutes a major strength of the current research.

Through further refinement of these findings, social media addiction would be better understood in an Indian socio-cultural context. These findings would in turn benefit mental health professionals looking to increase efficacy of therapeutic intervention in cases of social media related malvalent behavior. This study therefore paves way for further research to be conducted into this highly intricate and intriguing field of dark personality traits and social networking platforms.

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Analysis of descriptive statistics

Descriptive					
	TOTAL DT3	TOTAL N	TOTAL P	TOTAL M	TOTAL SMU
N	441	441	441	441	441
Missing	0	0	0	0	0
Mean	50.5	19.4	15.4	15.7	15.0
Std. error mean	0.838	0.390	0.307	0.340	0.277
Median	51	20	15	15	15
Mode	24.0 ^a	8.00 ^a	8.00	8.00	16.0
Std. Deviation	17.6	8.18	6.44	7.14	5.82
Variance	310	66.9	41.5	51.0	33.8
Skewness	0.0825	-0.00227	0.453	0.372	0.0864
Std. Error Skewness	0.116	0.116	0.116	0.116	0.116
Shapiro-Wilk W	0.991	0.975	0.971	0.969	0.994
Shapiro-Wilk p	0.007	<.001	<.001	<.001	0.062
^a More than one mode exists, only the first is reported					

Gender differences

Group Descriptives						
	Group	N	Mean	Median	SD	SE
TOTAL SMU	Female	322	15.5	16.0	5.68	0.317
	Male	119	13.6	13.0	5.97	0.547
TOTAL M	Female	322	14.8	14.0	6.93	0.386
	Male	119	18.0	18.0	7.23	0.662
TOTAL P	Female	322	14.7	14.0	6.24	0.348
	Male	119	17.5	18.0	6.53	0.599
TOTAL N	Female	322	18.9	19.5	8.16	0.455
	Male	119	20.8	21.0	8.12	0.745
TOTAL DT3	Female	322	48.4	48.0	17.31	0.965
	Male	119	56.3	59.0	17.15	1.572

Analysis of Correlation matrix

Correlation Matrix						
		TOTAL SMU	TOTAL M	TOTAL P	TOTAL N	TOTAL DT3
TOTAL SMU	Spearman's rho	—				
	df	—				
	p-value	—				
	N	—				
TOTAL M	Spearman's rho	0.326***	—			
	df	439	—			
	p-value	<.001	—			
	N	441	—			
TOTAL P	Spearman's rho	0.174***	0.519***	—		
	df	439	439	—		
	p-value	<.001	<.001	—		
	N	441	441	—		
TOTAL N	Spearman's rho	0.286***	0.536***	0.370***	—	
	df	439	439	439	—	
	p-value	<.001	<.001	<.001	—	
	N	441	441	441	—	
	Spearman's rho	0.331***	0.847***	0.739***	0.810***	—

TOTAL DT3	df	439	439	439	439	—
	p-value	<.001	<.001	<.001	<.001	—
	N	441	441	441	441	—
<i>Note.</i> * $p < .05$, ** $p < .01$, *** $p < .001$						