JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
Volume 4 • Issue 5 • September 2026

DARK PERSONALITY TRIAD, EMOTIONAL DYSREGULATION AND INTERNET ADDICTION AMONG UNIVERSITY STUDENTS

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DOI: https://doi.org/10.5281/zenodo.23053040

Keywords
Dark Triad Personality, Emotional Dysregulation, Internet Addiction, University Students

Article History
Received: 21 June 2026
Accepted: 12 September 2026
Published: 30 September 2026

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Abstract

The present study intended to examine the relationship between dark triad personality, emotional dysregulation and internet addiction among university students. It also aimed to determine the predictive strength of dark triad personality (viz., Machiavellianism, narcissism, psychopathy), and emotional dysregulation in explaining internet addiction and to investigate the mediating role of emotional dysregulation. For this purpose, a convenient sample of 300 university students aged 20 years and above was selected from Superior University Lahore and Bahria University Lahore. A correlational research design was employed, and data were collected through the survey method. Three standardized research instruments, including the Short Dark Triad Scale (Paulhus & Jones, 2014), the Emotion Dysregulation Scale for Adults (Cremasco et al., 2020), and the Internet Addiction Test (Young, 1998), were administered. The data were analyzed using SPSS version 29. Results indicated that Machiavellianism, narcissism, and psychopathy were significantly and positively correlated with emotional dysregulation and internet addiction. Emotional dysregulation appeared as the strongest positive predictor of internet addiction, while all three dark personality traits also significantly predicted internet addiction. Furthermore, emotional dysregulation significantly mediated the relationships of machiavellianism, narcissism, and psychopathy with internet addiction. The study provides insight into the development of gender-sensitive interventions focusing on emotion regulation skills to prevent and reduce internet addiction among university students. The study has important implications for clinical, educational, and counselling psychology.

1. INTRODUCTION

University students belong to a vulnerable group in terms of excessive internet use and developing many psychological and behavioral problems, along with developing dysfunctional personality traits. Adjusting to university life entails academic stress, emotional problems, identity formation, and social pressure, which may affect students' psychological well-being and coping behaviors (Zhang et al., 2024).

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Volume 4 • Issue 5 • September 2026

In the modern world of digital technology, internet usage is an essential element in everyday life. University students greatly rely on the internet for their social, academic, and other activities. The development and uncontrolled utilization of the Internet have given rise to Internet Addiction (IA). Now, it is recognized as a growing global health problem. Due to more accessibility, academic pressure, and social networking needs, internet addiction is common among university populations (Zhang et al., 2025). Research on university students in Pakistan notes that excessive internet usage is associated with depression, poor academic performance, and the presence of maladaptive behaviors, as well as a lack of significant amount (Rashid et al., 2024).

Excessive use of the Internet by university students is becoming a global issue. This is due to its influence on academic performance, emotional stability, sleep quality, and personal relationships (Evgin et al., 2025). Psychological factors include personality characteristics or emotional problems that can lead to internet addiction. Young adults and university students with a lack of coping strategies, personality traits, anxiety, stress, and other factors contribute to problematic internet use (Rashid et al., 2024).

The Dark Personality Triad is an important area of psychological research. This is because it is connected with maladaptive thinking and emotional issues in young adults with problematic social functioning (Barberis et al., 2023). Maftei and Holman (2024) state that narcissism, Machiavellianism, and psychopathy are three socially aversive personality traits that comprise the dark triad. People with narcissism typically have an exaggerated sense of self-importance, a need for admiration, and a lack of empathy.

People with Machiavellianism tend to be manipulative and deceitful. Psychopaths are impulsive, irresponsible, and antisocial. Individuals who score high on dark triad traits are more likely to show risky behaviours, emotional instability, aggression, and engagement in addictive online activities, say recent studies. The personality characteristics of university students may lead them to use the digital world excessively to seek affirmation, manipulate interpersonal relationships, or vent undue urges (Tang et al., 2022).

Şimşek et al. (2023) emotional dysregulation is another important psychological construct related to problematic internet use. Emotional dysregulation is the inability to recognize, control, or properly manage one's emotions. People with emotional dysregulation experience emotional outbursts, impulsive behaviours, and mood changes that make managing stress difficult.

1.1 Research Objectives

1. To see the relationship between dark personality triads, emotion dysregulation and internet addiction
2. To examine the predictive role of dark personality triads and emotion dysregulation in internet addiction
3. To examine the mediating role of emotion dysregulation between dark personality triads and internet addiction

1.2 Hypotheses of the Study

H1: There will be a significant relationship between dark personality triads, emotion dysregulation and internet addiction among university students

H2: Dark personality triads and emotion dysregulation would significantly predict internet addiction

H3: Emotion dysregulation will significantly mediate the relationship between dark personality triads and internet addiction

1.3 Rationale and Significance of the Study

The aim of this study is based on the growing evidence that internet addiction among university students is a function of psychological phenomena rather than individual cases. Dark personality traits (narcissism, Machiavellianism, and psychopathy) are known to predict problem internet use severely. Researchers found that such personality types are impulsive, emotionally cold, and reward seekers (Kircaburun et al., 2019). Simultaneously, emotional dysregulation has emerged as a significant risk factor, with individuals

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employing the internet as an ineffective approach to cope with negative feelings (Spada & Marino, 2017; Estévez et al., 2017). There is still a content gap, as most studies focus on these variables in isolation, with very little research having focused on the role of emotional dysregulation in personality and addiction, especially in university samples. By addressing this gap, we can gain a better and mechanistic understanding of internet addiction.

The study is important as it goes beyond mere association and offers a process-based explanation for internet addiction. In recognizing emotional dysregulation as a mediating pathway, an emphasis is placed on emotional regulation, which models of addiction argue is central to the control of behavior (Brand et al., 2016).

Thereby providing a clear target for a psychological intervention. This research is practical for universities as it helps develop targeted mental health strategies that enhance emotional regulation rather than just restricting internet use. Also, this study presents context-specific evidence in a country like Pakistan, where empirical evidence is lacking. It can help educators and policymakers work towards a rapidly growing behavioral health issue among youth. The findings of this study will help researchers better understand the psychological mechanisms underlying internet addiction among university students. In addition, the study will provide valuable insights for counsellors, clinical psychologists, and mental health professionals to devise evidence-based therapeutic interventions that enhance emotion regulation skills and reduce excessive internet addiction among students with maladaptive personality traits.

2. LITERATURE REVIEW

Emotional dysregulation is frequently related to addiction, including internet and social media addiction. As a result, college students who encounter emotional concerns may overuse the internet as a means of coping to avoid stress, loneliness, anxiety, negative feelings, etc. Due to that, the internet may provide temporary emotional relief and ultimately lead to compulsive, problematic uses and usages (Barberis et al., 2023).

Different psychological experiences are what define emotions, and their affective cores have positive or negative valences that indicate how pleasant or disagreeable a particular circumstance is viewed (Thompson, 2019). In addition to experiencing emotions, it's critical to regulate them in a way that makes sense given the situation; poor mood regulation has been linked to insufficient coping mechanisms for stressful situations. Higher levels of emotional self-regulation indicate better adaptation to the environment, and this regulation or control results from humans' unique capacity to reflect on their experiences and actions and make predictions (McRae & Gross, 2020).

The significant connection between Machiavellianism and problematic internet use is still being confirmed by recent research, which demonstrated a favourable correlation between Machiavellianism and problematic social media use. In order to obtain a social or interpersonal advantage over others, people with strategic and manipulative personality traits may spend excessive amounts of time online. Additionally, the study shows that young individuals' internet addiction is caused by Machiavellianism and dangerous online behavior (Hussain et al., 2021).

Similarly, a recent study examining the relationship between problematic internet use and Dark Triad personality traits discovered that excessive internet use was significantly predicted by Machiavellianism. The researchers claim that individuals with high levels of Machiavellianism may utilise the internet for strategic social conduct, impression management, and manipulation. Because there is less face-to-face accountability while communicating online, these individuals are more likely to rely on the internet, which may eventually cause them to become obsessed with it (Jabłońska & Zajdel, 2020).

Casale and Banchi's (2020) systematic evaluation of numerous empirical studies on narcissism and problematic social media use revealed a consistent positive association for the first variable and addictive social networking

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behaviour for the second. Their review indicates that those with high grandiose narcissism scores are more likely to engage in online self-presentation activities, such as uploading photos, updating profiles, receiving feedback, etc. The compulsive Internet use may be consistently reinforced by these activities. Psychopathy was somewhat positively predicted by using the social networking site for amusement, attention-seeking, and emotional escape. Psychopathy and problematic social media use were found to be positively correlated. The study's findings indicated that a specific group of people have a certain psychopathy connected to internet use (Tang et al., 2022).

Additionally, a study's findings indicated that psychopathy was a strong predictor of problematic social media use and digital technology addiction, especially in people with poor emotional control. People with psychopathy may take advantage of online settings to satisfy their impulsive tendencies or desires for social dominance (Barberis et al., 2023).

Machiavellianism, narcissism, and psychopathy had positive associations with problematic social networking site use, and emotion dysregulation had significant mediating effects. According to the SEM results, people with high Dark Triad traits experience more difficulties in emotion regulation, which results in problematic internet. The study suggested that emotion modulation is a key explanatory process linking maladaptive personality and addictive online behaviors (Hussain et al., 2021).

Similarly, Daniela et al. (2022) looked at the relationship between the Dark Triad and Instagram addiction. The three dark triads, which are narcissism, psychopathy, and Machiavellianism, predicted Instagram addiction positively. Likewise, coping motives and maladaptive emotional regulation strategies played mediating roles. People high in psychopathy and narcissism were more likely to engage in excessive Instagram use to help regulate emotional distress for psychological gratification.

2.1. Theoretical Background

2.1.1 I-PACE Model. According to another theoretical account (I-PACE Model), the interaction between maladaptive personality traits and specific emotional and cognitive vulnerabilities increased the likelihood of developing internet addiction (Brand et al., 2019). As per this model, persons with Dark Triad characteristics experience increasing emotional dysregulation, impulsivity, and poor emotional control, leading them to indulge in excessive online engagement as a maladaptive coping strategy (Hoerstein et al., 2025).

2.1.2. Cognitive Behavioral Model of Pathological Internet. Pre-existing psychological and personality vulnerabilities may serve as a distal element that predisposes an individual to maladaptive Internet behaviors, according to the cognitive-behavioral model of pathological Internet use. There is a higher likelihood of generalized or particular problematic use of the internet and mobile phones when a person has certain traits, such as impulsivity or maladaptive self-beliefs. This would entail playing video games or social networking (Laconi et al., 2018). The relationship between the Dark Triad and psychological maladjustment, which includes addictive internet behaviors and problematic social media use, could be partially mediated by emotionally maladaptive strategies (Barberis et al., 2023).

For university students, the mediation process may be reinforced further by academic stress, social stress, loneliness, and emotional problems (Hainagiu et al., 2025). Students with Dark Triad personality traits show ineffective management of emotional distress and are likely to engage in internet activities, gaming, or social networking sites as a means to avoid unpleasant emotions. As a result, the dysregulation of emotions makes it more likely that maladaptive personality traits will lead to problematic internet usage and addiction (Rashid et al., 2024).

Emotion dysregulation mediates the impact of the Dark Triad on internet addiction in university students. It was found that Dark

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Triad, especially psychopathy and narcissism, were positively linked to problematic internet use and internet gaming. Impulsive emotional responses and low control of emotions caused by maladaptive personality traits increase excessive use of the internet to cope with their distress and emotional instability (Kircaburun & Griffiths, 2018).

Quaglieri et al. (2022) indicated that at least some of the association between maladaptive personality characteristics and problematic use of social media is explained by difficulties in emotion regulation (Iannattone et al., 2024). People who have manipulative, emotionally unstable, and impulsive personality traits are more likely to misuse social networking sites to escape negative moods, loneliness, and/or psychological distress (Marengo et al., 2022). Increased difficulty regulating emotion is related to more difficulty controlling online behaviour and more compulsive social media use and reliance on online communication as a maladaptive distraction (Iannattone et al., 2024). Psychopathy and narcissism were indirectly linked to smartphone addiction in psychopathic personalities through emotional dysregulation and impulsivity. Pupils who face difficulties controlling their emotions were more likely to engage in compulsive behaviours regarding smartphones and internet use to manage stress and emotional tension (Balta et al., 2020).

The aim of this study is based on the growing evidence that internet addiction among university students is a function of psychological phenomena rather than individual cases. Dark personality traits (narcissism, Machiavellianism, and psychopathy) are known to severely predict problem internet use. Researchers found that such personality types are impulsive, emotionally cold, and reward seekers (Kircaburun et al., 2019). Simultaneously, emotional dysregulation has emerged as a significant risk factor, with individuals employing the internet as an ineffective approach to cope with negative feelings (Spada & Marino, 2017). There is still a content gap, as most studies focus on these variables in isolation, with very little research having focused on the role of emotional dysregulation in personality and addiction, especially in university samples. By addressing this gap, we can gain a better and mechanistic understanding of internet addiction.

The study is important as it goes beyond mere association and offers a process-based explanation for internet addiction. In recognizing emotional dysregulation as a mediating pathway, an emphasis is placed on emotional regulation, which models of addiction argue is central to the control of behavior (Brand et al., 2016).

Thereby providing a clear target for a psychological intervention. This research is practical for universities as it helps develop targeted mental health strategies that enhance emotional regulation rather than just restricting internet use. Also, this study presents context-specific evidence in a country like Pakistan, where empirical evidence is lacking. It can help educators and policymakers work towards a rapidly growing behavioral health issue among youth. The findings of this study will help researchers better understand the psychological mechanisms underlying internet addiction among university students. In addition, the study will provide valuable insights for counsellors, clinical psychologists, and mental health professionals to devise evidence-based therapeutic interventions that enhance emotion regulation skills and reduce excessive internet addiction among students with maladaptive personality traits.

3. Method

3.1 Research Design

The current research examined the relationship between Dark Triad personality, emotion dysregulation, and internet addiction in university students using a quantitative correlational research design.

3.2 Participants

The final sample recruited from various departments of Superior University Lahore and Bahria University Lahore, Pakistan, consisted of N= 300 university students aged 18 years and above. The study included n=150 males and

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n=150 females. The mean and SD of age were calculated as 27.5(3.10). This study included undergraduate and postgraduate students from public and private universities. Both male and female internet users of the age group 20 years and above who regularly use the internet for academic, communication, entertainment, or social networking purposes. Including participants from different disciplines and years of study would enhance the representativeness of the findings. Therefore, a variety of participants were included. Only participants who understood English and provided informed consent were included in the study. Responses will remain confidential and only be used for research purposes.

3.3 Measures

3.3.1. Demographic Information Sheet

Respondents provided their ages, genders, socioeconomic status, family system, and education on a demographic information form along with their consent. Education was fixed as BS (hons), MA/MSc, and M.Phil./PhD.

3.3.2. Dark Triad Personality Test (SD3; Paulhus and Jones, 2014)

The Dark Triad Personality Test was developed by Paulhus and Jones (2011) to offer a more consistent assessment of personality types. The three traits are psychopathy (a manipulative mindset), Machiavellianism (lack of empathy), and narcissism (excessive self-love). There are 27 items on the test. The statement is based on a five-point Likert scale, ranging from strongly disagree to strongly agree. The subscale headings should be removed before the SD3 is administered. Maintain the same order for the elements. (R) Indicates reversals. The Cronbach alpha formula's internal consistency metrics fall between. 60 and.72.

3.3.3. Internet Addiction Test (IAT; Young, 1998)

The test for assessing internet addiction was created by Young (1998). The 20-item test assesses compulsivity, escapism, and reliance associated with excessive Internet use. The scale also assesses issues including social, professional, and personal disruptions caused by internet addiction. Examinees use a Likert scale with a number between 1 and 5 to indicate how much they agree with each statement. The IAT's overall score is the total of the examinee's assessments for each of the 20 item responses. Every item is rated on a scale of 0 to 5. The maximum is 100 points. The severity of the issue increases with the number of points that participants receive. Overall scores between 0 and 30 are considered to reflect typical internet use; scores between 31 and 49 indicate mild dependence, scores between 50 and 79 indicate significant addiction, and scores between 80 and 100 indicate serious internet reliance. The Cronbach alpha formula's internal consistency metrics fall between. 60 and.72.

3.3.4. Emotional Dysregulation Scale – Adults (EDEA; Cremasco, 2020)

The Emotional Dysregulation Scale – Adults (EDEA) was prepared by Cremasco (2020). The scale consists of 15 items, measured on a 4 Likert-type format (typically ranging from strongly disagree to strongly agree), is geared towards evaluating important features of emotional dysregulation like emotional awareness, understanding, modulation, and expression. To get the total emotional dysregulation score, respondents' scores are summed, with higher scores implying greater difficulties with regulation. The scale shows good psychometric properties. Specifically, it has been found that internal consistency (Cronbach's alpha) typically ranges around 0.80 or above for acceptable to high reliability.

3.4 Procedure

Ethical approval was first obtained from the Board of Studies (BOS) research committee to collect data, and permission to use the scales was obtained from the original authors. Permission to conduct the study was obtained from selected universities. Participants were recruited using convenience sampling, and they were informed of the study's purpose and objectives. Participants were also informed that their involvement in the study was completely voluntary and that they could decline or

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withdraw at any time without consequences. Furthermore, participants were assured that they could skip any question to which they did not feel comfortable responding. The information provided in the study was kept completely anonymous and confidential. A self-administered questionnaire was used to collect data. The researcher used a demographic information sheet and three standardized instruments in the present questionnaire. The instruments used were the Internet Addiction Test (IAT) developed by Young (1998), the Short Dark Triad (SD3) developed by Jones and Paulhus (2014), and the Emotion Dysregulation Scale for Adults (EDSA) developed by Cremasco et al. (2020). According to their preferences, the participant filled out the questionnaire either using paper and pencil or through Google Form. Once the data collection was completed, all the filled-in questionnaires were screened. The researchers processed the data from the survey and questionnaire, converting them into a format suitable for analysis. This included coding and entering the information into the Statistical Package for the Social Sciences (SPSS). Statistics referring to participants' characteristics were performed using descriptive statistics; correlation, multiple regression analyses and mediation analysis were employed to study the relationship among the variables and to test the research hypotheses.

4. Results

Data were analyzed by SPSS version 26. The sociodemographic variables of gender, education, and marital status, and family type, use of internet, monthly income and age were categorized. Among the respondents, the gender distribution was equally divided between men and women (n = 150, 50.0% each). Mostly the participants were enrolled in the BS courses (n = 182, 60.7%), followed by MPhil/MS (n = 92, 30.7%), and PhD (n = 26, 8.7%) courses. Most of the participants were married (n = 237, 79.0%), living in joint families (n = 168, 56.0%), and urban areas (n = 200, 66.7%). On the use of the internet, mostly 36.7% of the participants use the internet for 10-12 hours, 32.7% for more than 12 hours, and 30.7% for 5-8 hours. More than half were aged 18–27 years (n = 167, 55.7%), followed by 26–30 years (n = 121, 40.3%) and 30–35 years (n = 12, 4.0%).

The SD3 consists of 27 items with α = .84; the Machiavellianism subscale consists of 9 items with α = .93; narcissism consists of 9 items with α = .84; and psychopathy consists of 9 items with α = .78. IAT comprises 20 items with α = .88, and EDEA consists of 15 items with .74 alpha coefficient. Machiavellianism scores ranged from 9 to 45, with a mean of 27.65 (SD = 8.40). Narcissism scores ranged from 9 to 45 (M = 28.35, SD = 8.28), and psychopathy scores ranged from 9 to 45 (M = 28.76, SD = 8.16). Emotion dysregulation scores ranged from 16 to 60, with a mean of 40.34 (SD = 10.95). Internet addiction scores ranged from 0 to 100, with a mean of 54.73 (SD = 25.44).

Table 1 shows the correlation coefficients among the personality characteristics of the Dark Triad, emotion dysregulation, and internet addiction of 300 participants. There were significant positive correlations between Machiavellianism and narcissism (r = .42, p < .001), Machiavellianism and psychopathy (r = .52, p < .001), Machiavellianism and emotion dysregulation (r = .62, p < .001), Machiavellianism and internet addiction (r = .74, p < .001). Narcissism had significant positive correlations with psychopathy (r = .36, p < .001), emotion dysregulation (r = .49, p < .001), and internet addiction (r = .59, p < .001). There were significant positive associations between psychopathy and emotion dysregulation (r = .63, p < .001) and internet addiction (r = .69, p < .001). Emotion dysregulation and internet addiction had the highest correlation coefficient of r = .83, p < .001. This shows that dark personality triads are highly linked to emotional dysregulation and further lead to engaging in unhealthy use of the internet.

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Table 1: *Correlation Matrix of Dark Personality Triads, Emotion Dysregulation and Internet Addiction N= 300*

Variable	1	2	3	4	5
1.Machiavellianism	-				
2. Narcissism	.42**	-			
3. Psychopathy	.52**	.36**	-		
4. Emotion dysregulation	.62**	.49**	.63**	-	
5. Internet addiction	.74**	.59**	.69**	.83**	-

*** $P < .001$

Table 2 shows the results of stepwise regression analysis performed to establish predictors of internet addiction among university students. Emotional dysregulation emerged as a significant predictor in Step 1 and contributed 68.6% to the variance of internet addiction, β = .828, t = 25.50, p < .001. When Machiavellianism was added in Step 2, the variance explained improved to 76.9%. Psychopathy was included in Step 3 and emerged as a significant positive predictor, contributing 79.5% to the variance. Finally, when narcissism was added to the model in the final step, the predictors collectively accounted for 81.8% of variance in internet addiction, adjusted R^2 = .816. The four predictors emerged as significant positive predictors of internet addiction. The strongest predictor was found to be emotional dysregulation, β = .429, followed by Machiavellianism, β = .287, psychopathy, β = .209, and narcissism, β = .179.

Table 2: *Multiple Regression Predicting Internet Addiction from Dark Personality Traits and Emotion Dysregulation (N=300)*

Predictor	*B*	*SE*	*β*	*t*	*p*
Step 1					
Constant	−100.52	6.15	–	−16.36	< .001
Emotional dysregulation	3.99	0.16	.82	25.50	< .001
Step 2					
Constant	−88.67	5.40	–	−16.40	< .001
Emotional dysregulation	2.89	0.18	.60	16.92	< .001
Machiavellianism	1.11	0.10	.36	10.31	< .001
Step 3					
Constant	−97.02	5.27	–	−18.38	< .001
Emotional dysregulation	2.38	0.18	.49	13.12	< .001
Machiavellianism	0.96	0.10	.31	9.28	< .001
Psychopathy	1.12	0.18	.21	6.13	< .001
Step 4					
Constant	−116.94	5.92	–	−19.72	< .001
Emotional dysregulation	2.06	0.17	.42	11.56	< .001
Machiavellianism	0.86	0.09	.28	8.74	< .001
Psychopathy	1.10	0.17	.20	6.35	< .001
Narcissism	1.31	0.21	.17	6.17	< .001

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Note. Dependent variable = Internet Addiction. *B* = Unstandardized Regression coefficient; *SE* = standard error; *β* = standardized regression coefficient. Model summary: Step 1, R^2 = .686, adjusted R^2 = .685, $F(1, 298) = 650.30$, $p < .001$; Step 2, R^2 = .769, adjusted R^2 = .767, $F(2, 297) = 493.43$, $p < .001$; Step 3, R^2 = .795, adjusted R^2 = .793, $F(3, 296) = 381.98$, $p < .001$; Step 4, R^2 = .818, adjusted R^2 = .816, $F(4, 295) = 331.96$, $p < .001$.

Table 3 reveals the outcomes of three independent mediation analyses were generated using Hayes' PROCESS Macro Model 4 with 5,000 bootstrapped samples. Machiavellianism had a significant predictive ability on emotion dysregulation, *B* = 0.389, *SE* = 0.027, $p < .001$, which in turn significantly predicted internet addiction, *B* = 2.897, *SE* = 0.176, $p < .001$. The indirect effect via emotion dysregulation was significant, *B* = 1.126, BootSE = 0.103, 95% CI [0.934, 1.337]. Similarly, narcissism had a significant predictive ability on emotion dysregulation, *B* = 0.758, *SE* = 0.076, $p < .001$, while emotion dysregulation significantly predicted internet addiction, *B* = 3.427, *SE* = 0.180, $p < .001$. The indirect effect was significant, *B* = 2.597, BootSE = 0.269, 95% CI [2.070, 3.134]. Psychopathy was a significant predictor of emotion dysregulation, *B* = 0.693, *SE* = 0.049, $p < .001$, which significantly predicted internet addiction, *B* = 3.118, *SE* = 0.201, $p < .001$. The indirect effect was significant, *B* = 2.160, BootSE = 0.183, 95% CI [1.806, 2.518].

Table 3: ***Mediation of Emotion Dysregulation in the Relationship between Dark Personality Traits and Internet Addiction (N = 300)***

Predictor and path	Effect	B	*SE*/BootSE	*t*	*p*	95% CI
Machiavellianism						
Machiavellianism → Emotion dysregulation	Path *a*	0.38	0.02	14.31	< .01	[0.33, 0.44]
Emotion dysregulation → Internet addiction	Path *b*	2.89	0.17	16.46	< .01	[2.51, 3.24]
Machiavellianism → Internet addiction	Direct effect (*c′*)	1.11	0.10	10.36	< .01	[0.89, 1.32]
Machiavellianism → Emotion dysregulation → Internet addiction	Indirect effect (*ab*)	1.12	0.10	—	—	[0.93, 1.33]
Narcissism						
Narcissism → Emotion dysregulation	Path *a*	0.75	0.07	9.91	< .01	[0.60, 0.90]
Emotion dysregulation → Internet addiction	Path *b*	3.42	0.18	19.05	< .01	[3.07, 3.78]
Narcissism → Internet addiction	Direct effect (*c′*)	1.72	0.27	6.28	< .01	[1.18, 2.26]
Narcissism → Emotion dysregulation → Internet addiction	Indirect effect (*ab*)	2.59	0.26	—	—	[2.07, 3.13]
Psychopathy						
Psychopathy → Emotion dysregulation	Path *a*	0.69	0.04	14.01	< .01	[0.59, 0.79]
Emotion dysregulation → Internet addiction	Path *b*	3.18	0.20	15.45	< .01	[2.72, 3.51]

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Predictor and path	Effect	B	*SE*/BootSE	*t*	*p*	95% CI
Psychopathy → Internet addiction	Direct effect (*c'*)	1.50	0.21	7.05	< .01	[1.08, 1.93]
Psychopathy → Emotion dysregulation → Internet addiction	Indirect effect (*ab*)	2.16	0.18	—	—	[1.80, 2.51]

Note: Process Model 4 was conducted using 5,000 bootstrap resamples and heteroscedasticity-consistent standard errors (HC3). B = unstandardized coefficient; SE = standard error; Boots = bootstrap standard error; CI = confidence interval. Internet addiction was considered to be the dependent variable while emotion dysregulation was the mediator variable. PROCESS model does not produce t and p values for bootstrap indirect effects. The significance of such indirect effects is checked if the confidence interval does not include zero

4. Discussion

This research investigated the association among Machiavellianism, narcissism, psychopathy, emotional dysregulation, and internet addiction, while also exploring the predictive and mediating effects of the research variables. Moreover, the differences in the variables based on certain demographics were analyzed. Interpretations of the results are provided regarding the established hypotheses, theories, and prior literature. Further discussions include reasons for the consistency and inconsistency of the findings, as well as the significance, limitations, and directions for future research of the current study.

The **H1** of the study is "There will be a significant relationship between dark personality triads, emotion dysregulation and internet addiction among university students". The results of this hypothesis are explained in Table 1. The results show that there were significant positive correlations between Machiavellianism and narcissism, Machiavellianism and psychopathy, Machiavellianism and emotion dysregulation and Machiavellianism and internet addiction. Narcissism had significant positive correlations with psychopathy, emotion and internet addiction. There were significant positive associations between psychopathy and emotion dysregulation and internet addiction.

The results of H1 were found to be consistent with previous literature, as University students found dark triad personality traits to be positively related to emotional regulation difficulties. This indicates that students who have higher dark triad traits tend to find it difficult to identify, understand, and manage their emotional experiences. The study also found that dark triad traits and difficulties in emotional regulation could predict alexithymia, suggesting that a lack of emotional awareness may be an important pathway through which dark personality traits impact students' psychological functioning (Abdul Kareem & Al-Qahtani, 2025). Further, according to Ali et al. (2023), a different student-based research study looked into the dark triad personality, emotional regulation difficulties, and career exploration behavior. The overall dark triad model was significantly positively correlated to emotional regulation difficulties among students, the results revealed. Machiavellianism, narcissism, and psychopathy were positively associated with emotional regulation problems, as students with manipulative, self-centered, or impulsive traits may face more difficulty controlling emotions in academic and personal life.

In addition, the researchers found that people with psychopathic traits may have some manifestations of poor emotional regulation. This is particularly important for students as low emotional control can result in interpersonal conflict, engagement in high-risk behavior, aggressive behavior, and maladaptive coping patterns (Garofalo et al., 2020). Javed et al. (2025) found that Machiavellianism was associated with university students' problematic online and aggressive behavior, and the study discussed emotional dysregulation as an important psychological factor associated with these maladaptive outcomes.

JOURNAL FOR SOCIAL SCIENCE STUDIES
An International Peer-Reviewed Open Access Journal
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Previous research supports the results of the present study, as Psychopathy was somewhat positively predicted by using the social networking site for amusement, attention-seeking, and emotional escape. Psychopathy and problematic social media use were found to be positively correlated. The study's findings indicated that a specific group of people have a certain psychopathy connected to internet use (Tang et al., 2022). Additionally, a study's findings indicated that psychopathy was a strong predictor of problematic social media use and digital technology addiction, especially in people with poor emotional control. People with psychopathy may take advantage of online settings to satisfy their impulsive tendencies or desires for social dominance (Barberis et al., 2023).

The present study is line with Verman (2024) researched how Dark Triad qualities affect internet addiction. Internet addiction and psychopathy showed a strong and favourable correlation among the youth. People who are more psychopathic are highly motivated to engage in various forms of cyber relationships and are also frequent online communicators. A study by Casale and Banchi (2020) looked at the association between narcissism and problematic social networking site use. The results showed that narcissistic individuals utilize social media to control their emotions and get social validation. Additionally, it was demonstrated that social networking platform motivations linked narcissism and problematic internet use, which explains why high narcissists may utilise the internet to cope with psychological requirements like social belonging and validation (Musetti et al., 2022).

The **H2** of the current study is: Dark personality triads and emotion dysregulation would significantly predict internet addiction. The results for H2 are presented in Table 2, which shows the output of the multiple linear regression analysis that explores whether dark triad, specifically Machiavellianism, narcissism, psychopathy, and emotion dysregulation, can predict internet addiction. Among all predictors, emotion dysregulation was the best positive predictor while the other variables such as Machiavellianism, psychopathy, and narcissism also showed a significant influence on internet addiction. The results of H2 were consistent with Quaglieri et al. (2021), who found that problematic social media usage could be predicted in a significant manner from difficulties in emotion regulation. Further, this predicted internet addiction and compulsive behavior online. Overall, the study sample pertained to youth and young adults. Individuals who have difficulty managing their emotions are more likely to use social networks and the Internet for mood modification, emotional escape, and emotional reassurance. The researchers concluded that use of maladaptive emotion regulation strategies heightened the psychological dependence on the online and virtual world (Yu et al., 2025).

Further, Hidayatullah et al. (2023) found that students with higher internet addiction report significantly greater disturbed emotion regulation, poor sleep quality, and general health problems. The research found that university students' addiction to the Internet predicts disturbed emotion regulation. In addition, students exhibiting addictive behavior on the internet have a greater sense of emotional instability, impulsive emotional reactions, and psychological distress than those without internet addiction. There exists a positive and significant relationship between alexithymia and internet addiction in students of secondary and higher education. Students with an inability to recognize and express emotions were more susceptible to internet addiction. The study found that emotional processing deficits increase emotional dependence on digital environments and weaken adaptive emotional coping abilities of students (Karaçam et al., 2025). The severity of internet addiction significantly influenced emotion regulation strategies of adolescents and young adults. The research results showed that as the level of internet addiction increased, cognitive-emotional regulation strategies were weakened, and emotional suppression increased (Mento et al., 2025).

The **H3** of study is: Emotion dysregulation will play a mediating role between dark personality

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An International Peer-Reviewed Open Access Journal
ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
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triads and internet addiction. The results of this hypothesis reveals in table 5, Machiavellianism had a significant predictive ability on emotion dysregulationwhich in turn significantly predicted internet addiction. The indirect effect via emotion dysregulation was significant. Similarly, narcissism had a significant predictive ability on emotion dysregulation, while emotion dysregulation significantly predicted internet addiction. The indirect effect was significant. Psychopathy was a significant predictor of emotion dysregulation, which significantly predicted internet addiction.

The results of H3 were found to be consistent with previous research: machiavellianism, narcissism, and psychopathy had positive associations with problematic social networking site use, and emotion dysregulation had significant mediating effects. According to the SEM results, people with high Dark Triad traits experience more difficulties in emotion regulation, which results in problematic internet. The study suggested that emotion modulation is a key explanatory process linking maladaptive personality and addictive online behaviors (Hussain et al., 2021). Similarly, Daniela et al. (2022), looked at the relationship between Dark Triad and Instagram addiction. The three dark triads, which are narcissism, psychopathy, and Machiavellianism, predicted Instagram addiction positively. Likewise, coping motives and maladaptive emotional regulation strategies played mediating roles. People high in psychopathy and narcissism were more likely to engage in excessive Instagram use to help regulate emotional distress for psychological gratification.

Moreover, Borawski et al. (2021), emotional processes can serve as a mediator between Dark Triad personality traits and different problematic internet behaviors. The study found that tendencies toward narcissism and psychopathy increased emotional impulsivity and maladaptive coping, which further led to compulsive social media use and internet addiction. Emotional dysregulation helps drive those possessing Dark Triad characteristics' susceptibility to addictive digital behavior. A study examined psychological predictors of problematic internet use and found that emotional dysregulation mediated the relationship between maladaptive personality traits and internet addiction. Online addictive behavior was stronger among a configuration of higher psychopathy and emotional instability. Such individuals do not adaptively regulate their negative emotional states (Romano et al., 2021).

5.2 Limitations and Future Recommendations

- The correlational research design cannot make causal inferences between dark personality traits, emotional dysregulation and internet addiction.
- Self-report questionnaires were used in the study and this may have been influenced by social desirability, memory lapse and error in reporting.
- Results may not be extrapolated to other age groups and/or population groups since the sample consisted of university students.
- Further research is needed on mediators or moderators, including loneliness, academic stress, self-control, social support, coping strategies etc.
- The Internet is used in a variety of ways that can be problematic, and these various uses should be analyzed and understood in isolation.
- Further studies with adolescents, working adults and clinical populations are also recommended to enhance generalizability of findings.

5.3 Implications

The findings can help university counsellors identify students at higher risk of becoming Internet addicts. Emotional dysregulation could be considered as an important target for intervention as it was the strongest predictor and a significant mediator for Internet addiction. Emotion-regulation training might help decrease the effect of dark personality traits in problem use of the computer. Emotion awareness, impulse control, mindfulness, and adaptive coping strategies can be integrated into student interventions by mental health professionals. The results will inform universities' early screening and prevention

ISSN (Online): 3006-2071 | ISSN (Print): 3006-2063
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programs for problematic Internet use. The results can help inform policy and educational institutions in creating guidelines for healthy and balanced technology consumption amongst students in the University setting.

5.5 Conclusion

Overall, Machiavellianism, narcissism, and psychopathy were significantly and positively correlated with emotional dysregulation and internet addiction. Emotional dysregulation appeared as the strongest positive predictor of internet addiction, while all three dark personality traits also significantly predicted internet addiction. Furthermore, emotional dysregulation significantly mediated the relationships of machiavellianism, narcissism, and psychopathy with internet addiction. The results suggest that emotional regulation is a crucial factor in comprehending and intervening in internet addictions among university students and that interventions and prevention programs need to be adapted to the gender of the client.

5.4 Conflict of Interest

The authors declare no personal, institutional, financial, or commercial conflicts of interest related to this study. This manuscript is an original publication based on the dataset. No other manuscript using this dataset has been published, accepted for publication, or submitted elsewhere.

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