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Corresponding Author: Sumarira Bibi (Email: khusumaira05@gmail.com)
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The Relationship Between Dark Triad Personality Traits and Phubbing: Mediating Role of Psychological Distress

Sumaira Bibi [a] Nazia Iqbal [b] Saira Khalil [c]

Abstract: *Current research explored the relationship between dark triad personality traits and phubbing and also examined the mediating role of psychological distress (depression, anxiety, and stress) among young adults. Study employed Short Dark Triad Scale (Jones & Paulhus, 2014), Generic Scale of Phubbing (Chotpitayasunondh & Douglas, 2018), and Depression, Anxiety and Stress Scale – 21 items (Lovibond, 1995) on 403 university students from 18 to 28 years of age. Correlation analysis showed that all three dark triad personality traits (Machiavellianism, narcissism, and psychopathy) were positively associated with phubbing. Furthermore, in the parallel mediation model, only depression positively mediated the relationship between Machiavellianism and psychopathy with phubbing. This study will help in identifying the personality traits, specifically negative personality traits, that are associated with phubbing and the underlying mechanism by examining the mediating role of psychological distress in this relationship. This can aid in developing preventative and intervention methods to reduce phubbing.*

Keywords: Dark Triad Personality Traits, Phubbing, Depression, Anxiety, Stress, Young Adults, Mediation

Introduction

Smartphones are becoming an essential part of everyday life, and studies have shown that some people grow so addicted to their smartphones that they suffer from separation anxiety when they are not with them. (Cheever et al., 2014). Phubbing refers to an individual neglecting the person they are conversing with by focusing on their mobile phone instead. Phubbing might include actions like using social media and sending or reading texts rather than interacting with the individual seated next to you. The term "phubbing" first appeared in Australia in 2007 along with the development of smartphones (Nazir & Pişkin, 2016).

Effective communication involves active listening and engagement. Phubbing disrupts this process by diverting attention away from the speaker and reducing the listener's ability to truly understand and respond to what's being said. The occurrence of Phubbing in various social environments has been investigated. According to Ranie and Zickuhr (2015), 90% of respondents use their cell phones in their most recent social activity. Davey et al. (2018) revealed that phubbing behaviour was present in 50% of the participants. Hence, phubbing is a common behaviour among the general population.

Dark Triad Personality Traits and Phubbing

Dark triad personality refers to three closely linked but different personality traits with unpleasant and socially unacceptable attributes. These three non-clinical traits include Machiavellianism, narcissism, and psychopathy. Narcissism is defined as an inflated sense of self-worth, seeking constant attention and praise, elevated self-esteem, and a deficiency in empathy and consideration for others. Machiavellianism is characterized by manipulative behaviour, a cynical view of others, and a lack of empathy. Psychopathy is marked by an absence of empathy and emotional intelligence, which explains the reason for not feeling guilt, remorse, and having a disregard for social norms (Jones & Paulhus, 2014).

[a] MS Scholar, Department of Psychology, International Islamic University, Islamabad, Pakistan.
[b] Associate Professor, MS Scholar, Department of Psychology, International Islamic University, Islamabad, Pakistan.
[c] PhD Scholar, Department of Psychology, International Islamic University, Islamabad, Pakistan.

Every individual expresses each of these traits differently (Paulhus, 2014). These traits have been studied extensively in the area of psychology, and several studies have explored their individual and combined effects on various aspects of behavior and social interactions. Moor and Anderson (2019) discovered that all three of the dark triad qualities were predictive of antisocial online behavior (e.g., cyberbullying, aggression, trolling, etc.). Akat et al. (2023) found that phubbing was positively predicted by all three of the dark triad traits in a Turkish sample, indicating that those who score higher on dark triad traits are more inclined to phub other people. Several studies suggest that the relationship between dark triad traits and phubbing may be explained through addictive behaviours related to smartphone and social media use. There are several factors that contribute to phubbing, including mobile phone addiction, internet addiction, social media addiction and game addiction (Karadağ et al., 2016). Servidio et al. (2021) found that all of the dark triad traits were positively associated with problematic mobile phone use, while Kircaburun et al. (2019) linked dark triad traits with social media addiction.

Mediating Role of Psychological Distress

Psychological distress refers to a state of emotional and psychological discomfort that individuals may experience in response to various stressors, challenges, or mental health conditions. A high degree of psychological distress might indicate common mental illnesses such as depression and anxiety disorders, as well as poor mental state (Cuijpers et al., 2009). In recent years, numerous studies on the links between excessive smartphone usage and mental health variables have been published, and the most common ones are depression, stress, low self-esteem and anxiety (Elhai et al., 2017). According to research, psychological distress is another possible cause of phubbing (Kessler et al., 2003), possibly as a coping mechanism or a way to escape from distressing emotions. The relationship between phubbing and depression appears to be bidirectional, with phubbing and depression influencing each other in a reciprocal manner (McDaniel & Coyne, 2016). Moreover, anxiety has a significant association with phubbing, as individuals may use their smartphones to distract themselves from anxious thoughts and feelings (Davey et al., 2018).

Research on the relationship between dark traits and psychological distress has produced mixed results, with some studies reporting positive associations (Mushtaq et al., 2022) and others reporting negative associations (Lyons et al., 2019). Individuals high in dark triad traits may experience stress related to their social interactions, as their behaviour can lead to conflicts, social isolation, and mistrust (Jonason & Webster, 2010). Shen (2022) found that all dark triad traits, particularly psychopathy, were positively associated with depressive symptoms, whereas Sabouri et al. (2016) reported that all three dark triad traits were positively associated with anxiety sensitivity.

Research has also examined the mediating role of psychological health between personality traits and addictive behaviours related to smartphones. Khosravi et al. (2022) found that poor mental health mediated the relationship between neuroticism and internet addiction, whereas Günlü and Baş (2022) reported that well-being mediated the relationship between personality traits and internet addiction. Since depression, anxiety, and stress have been linked to both dark triad traits and phubbing, psychological distress may provide an explanatory mechanism underlying this association. Individuals experiencing psychological distress might engage in more phubbing behaviour as a way to cope with their negative emotions and to obtain a temporary escape from distressing thoughts and emotions (Kim, 2017).

Theoretical framework

Uses and Gratifications Theory (U&G): The Uses and Gratifications Theory suggests that individuals intentionally use media and social networking sites to satisfy their personal and social needs (Andreassen, 2015). People make deliberate choices regarding media use to fulfil desires such as maintaining personal relationships, enjoyment, appreciation, and social comparison (Grieve et al., 2021). Since individuals with dark triad personality traits tend to prioritize their own needs, they may use social media and online platforms to fulfil these desires, which may consequently lead to phubbing (Kircaburun et al., 2019).

Interaction of Person-Affect-Cognition-Execution (I-PACE) Model: The I-PACE Model explains problematic internet and smartphone use through the interaction of individual characteristics, affective states, cognitive processes, and executive functions (Brand et al., 2019). Individual factors such as personality traits and affective states, such as depression and stress, may contribute to excessive smartphone use (Mehmood et al., 2021). The model further suggests that problematic smartphone use can manifest as phubbing when excessive smartphone engagement interferes with social interactions and relationships (Chotpitayasunondh & Douglas, 2018).

Rationale

Phubbing is becoming increasingly prevalent due to the widespread use of smartphones and has numerous detrimental effects on interpersonal relationships and overall well-being. Studies in Pakistan have shown that smartphone addiction is directly associated with phubbing and is also indirectly associated with loneliness and fear of missing out (Safdar Bajwa et al., 2023). Although several predictors of phubbing have been identified in Pakistan (Yaseen et al., 2021), none have examined dark triad traits as predictors of phubbing. Moreover, dark triad traits have been found to be positively associated with psychological distress (Mushtaq et al., 2022), and depression, anxiety, and stress have been linked to phubbing (Davey et al., 2018). Furthermore, no prior research has examined the mediating role of psychological distress in the relationship between dark triad traits and phubbing. Therefore, the present study aimed to investigate the relationship between dark triad traits and phubbing and to examine the mediating role of psychological distress among young adults.

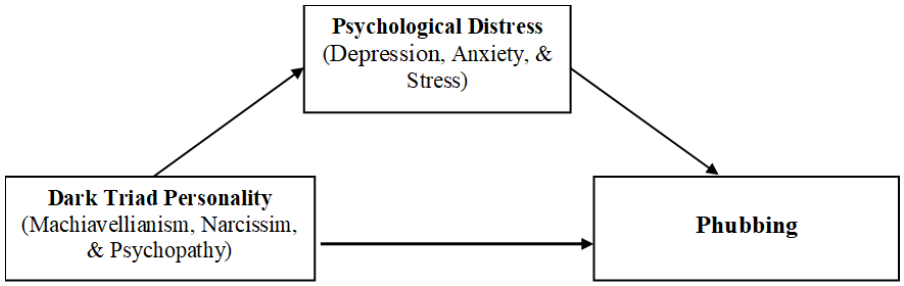
Hypothesis

1. Dark triad personality traits, Machiavellianism, narcissism and psychopathy, positively predict phubbing behavior among young adults.
2. Depression, anxiety and stress mediate the relationship between dark triad personality traits and phubbing among young adults.

Conceptual Framework

Figure 1

Mediating role of Psychological Distress between Dark Triad Personality traits and Phubbing.



Method

Sample

The sample consisted of 403 university students (189 men and 214 women) drawn from several universities in Islamabad and Rawalpindi using a convenience sampling technique. Participants' ages ranged from 18 to 28 years. Only individuals who were smartphone users were included in the study, and questionnaires with incomplete responses were excluded from the analyses.

Instruments

Demographic Sheet: The survey inquired about participants' socio-demographic factors, such as gender, age, education level, and marital status.

Generic Scale of Phubbing (GSP): Phubbing was measured using the Generic Scale of Phubbing (GSP) developed by Chotpitayasunondh and Douglas (2018). The scale comprises 15 items rated on a 7-point Likert scale ranging from 1 (Never) to 7 (Always). Total scores are obtained by summing all item responses, with possible scores ranging from 15 to 105, where higher scores indicate greater engagement in phubbing behaviour. The scale assesses four dimensions of phubbing: Nomophobia, Interpersonal Conflict, Self-Isolation, and Problem Acknowledgement. The scale demonstrated excellent internal consistency, with a reliability coefficient of .90.

Short Dark Triad scale (SD3): The Short Dark Triad Scale (SD3), developed by Paulhus (2014), was used to assess dark triad traits. The instrument comprises 27 items rated on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). It measures three dimensions of the dark triad personality construct: Machiavellianism, narcissism, and psychopathy, with each subscale consisting of nine items. Scores for each dimension are computed separately, with possible scores ranging from 9 to 45, where higher scores indicate greater levels of the respective trait. In the present study, the Cronbach's alpha coefficients for Machiavellianism, narcissism, and psychopathy were .72, .50, and .51, respectively.

Depression, Anxiety and Stress Scale – 21 Items (DASS-21): To measure psychological distress, DASS – 21 (Lovibond, 1995) was used in the present study. It is a widely used self-report questionnaire designed to measure the severity of depression, anxiety, and stress. It is a 4-point Likert scale containing a total of 21 items (0=Did not apply to me at all, 1=Applied to me to some degree, or some of the time, 2=Applied to me to a considerable degree or a good part of the time, 3=Applied to me very much or most of the time). It consists of three subscales (depression, anxiety, and stress), and each one has 7 items. Scores for each subscale are calculated by summing the scores, and each subscale has a minimum score of 0 and a maximum score of 21. Reliabilities for the subscales of depression, anxiety and stress were .77, .73 and .72, respectively.

Procedure

Three standardized questionnaires were used in the study, and permission to use the instruments was obtained from the respective authors. A convenience sampling technique was employed to recruit participants from various universities in Islamabad and Rawalpindi. Participants were provided with a booklet comprising an informed consent form, a demographic information sheet, and the study questionnaires. Before data collection, they were informed about the purpose of the research, and voluntary participation and confidentiality were emphasized. Participants were encouraged to respond honestly to ensure the accuracy of the findings. The collected data were entered and analyzed using SPSS Version 26.

Results

Table 1

Frequencies and percentages of demographic variables (N=403)

Variables	Category	*f*	%
Age	18-22	255	63
	23-28	148	37
Gender	Males	189	47
	Females	214	53
Marital status	Single	357	89
	Married	46	11
Education level	Undergraduate	337	84
	Postgraduate	66	16

Table 1 shows the frequencies and percentages of demographic variables of the 403 participants. The sample included young adults aged between 18 and 22, accounting for 63%, and between 23 and 28, accounting for 37%. Female respondents were in greater numbers than male respondents, with females 53% and males

47%. With respect to education levels, 84% of the participants were enrolled in a Bachelor's program, and 16% were enrolled in a Master's Program. Furthermore, within the marital status category, 89% were single, and 11% were married.

Table 2

Descriptive Statistics and Psychometric Properties of Study Variables (N=403)

Variables	*k*	α	*M(SD)*	Range		Skewness	Kurtosis
				Actual	Potential		
Machiavellianism	9	.72	3.15(.69)	1-5	1-5	-.22	-.01
Narcissism	9	.50	2.99(.55)	1.56-4.56	1-5	.09	.001
Psychopathy	9	.51	2.76(.57)	1.22-4.78	1-5	-.09	.09
Phubbing	15	.90	56.36(19.39)	15-105	15-105	.19	-.17
Depression	7	.77	6.41(4.08)	0-21	0-21	.59	.24
Anxiety	7	.73	6.89(4.05)	0-20	0-21	.49	.21
Stress	7	.72	6.93(3.89)	0-20	0-21	.31	-.02

Table 2 included descriptive statistics and psychometric attributes. The Machiavellianism subscale's reliability coefficient was .72, which is quite acceptable. The reliability coefficients for the narcissism and psychopathy subscales were .50 and .51, respectively. Previous studies in the literature utilizing the Short Dark Triad (SD3) Scale have reported low reliability coefficients for both narcissism and psychopathy (Lyons et al., 2017). The phubbing scale had a very high reliability coefficient of .90. The reliability for the subscales of depression, stress, and anxiety was .77, .73, and .72, respectively, all within an acceptable range. Skewness and kurtosis values fall between +2 and -2, indicating that the data is normally distributed (George, 2011).

Table 3

Correlation among Variables (N=403)

Variables	1	2	3	4	5	6	7
1. Machiavellianism	-	.33**	.36**	.39**	.19**	.20**	.22**
2. Narcissism	-	-	.30**	.25**	-.06	.00	.07
3. Psychopathy	-	-	-	.41**	.24**	.18**	.25**
4. Phubbing	-	-	-	-	.30**	.24**	.29**
5. Depression	-	-		-	-	.69**	.63**
6. Anxiety	-	-	-	-	-	-	.62**
7. Stress	-	-	-	-	-	-	-

*Note. **p<.01, *p<.05*

Table 3 revealed that all three dark triad traits were positively correlated with one another. Machiavellianism was positively correlated with phubbing, stress, anxiety, and depression. This indicates that people with the Machiavellian trait engage in phubbing behavior in their interpersonal relationships and are mentally distressed. Although the correlation between narcissism and phubbing was very weak, it was significant and positive. There was no correlation found between the psychological distress subscales and narcissism. Psychopathy was significantly and positively correlated with phubbing, depression, anxiety and stress variables. Phubbing was also significantly and positively correlated with depression, anxiety, and stress. Finally, depression, anxiety and stress were all positively correlated with each other. This means that the presence of one of the symptoms of psychological distress is accompanied by symptoms of the other two.

Mediation Analysis

Three separate parallel mediation models were conducted using PROCESS Macro (Model 4) with 5,000 bootstrap samples to examine whether depression, anxiety, and stress mediated the relationship between dark triad personality traits and phubbing.

Figure 2 revealed a significant indirect effect of Machiavellianism on phubbing through depression [B = 0.95, SE = 0.43], 95% CI [0.22, 1.91]. Machiavellianism positively predicted depression (a_1 = 1.11, p < .001), which in turn positively predicted phubbing (b_1 = 0.86, p = .006). The indirect effect through anxiety was not significant [B = −0.12, SE = 0.36], 95% CI [−0.84, 0.62]. Machiavellianism positively predicted anxiety (a_2 = 1.14, p < .001), but anxiety did not significantly predict phubbing (b_2 = −0.11, p = .734). Similarly, the indirect effect through stress was not significant [B = 0.71, SE = 0.43], 95% CI [−0.07, 1.62]. Machiavellianism positively predicted stress (a_3 = 1.22, p < .001), but stress did not significantly predict phubbing (b_3 = 0.58, p = .057). Thus, higher Machiavellianism increased depressive symptoms, which in turn increased phubbing behavior, while anxiety and stress did not mediate this relationship.

Figure 2

Depression, Anxiety, and Stress as mediators between Machiavellianism and Phubbing

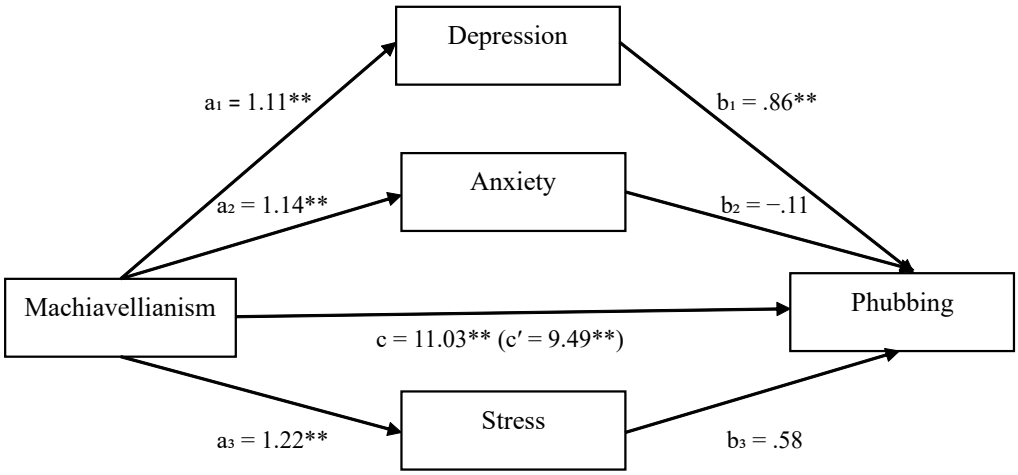


Figure 3 revealed no significant indirect effect of narcissism on phubbing through depression [B = −0.51, SE = 0.47], 95% CI [−1.59, 0.30]. Narcissism did not significantly predict depression (a_1 = −0.44, p = .228), although depression positively predicted phubbing (b_1 = 1.16, p < .001). Likewise, the indirect effect through anxiety was not significant [B = −0.00, SE = 0.11], 95% CI [−0.23, 0.24]. Narcissism did not significantly predict anxiety (a_2 = 0.03, p = .931), nor did anxiety significantly predict phubbing (b_2 = −0.02, p = .961). The indirect effect through stress was also not significant [B = 0.30, SE = 0.28], 95% CI [−0.13, 0.98]. Narcissism did not significantly predict stress (a_3 = 0.50, p = .157), although stress showed a marginal positive association with phubbing (b_3 = 0.60, p = .056). The relationship between narcissism and phubbing was not explained by depression, anxiety, or stress.

Figure 3

Depression, Anxiety, and Stress as mediators between Narcissism and Phubbing

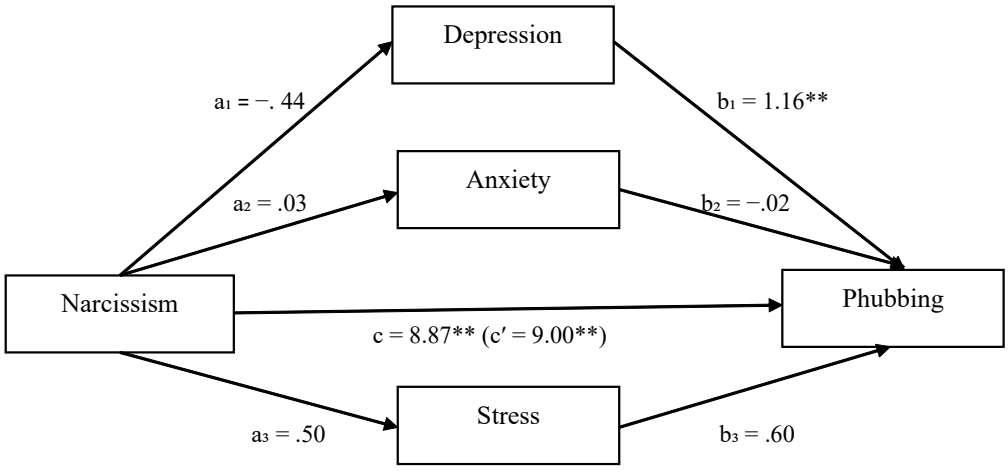
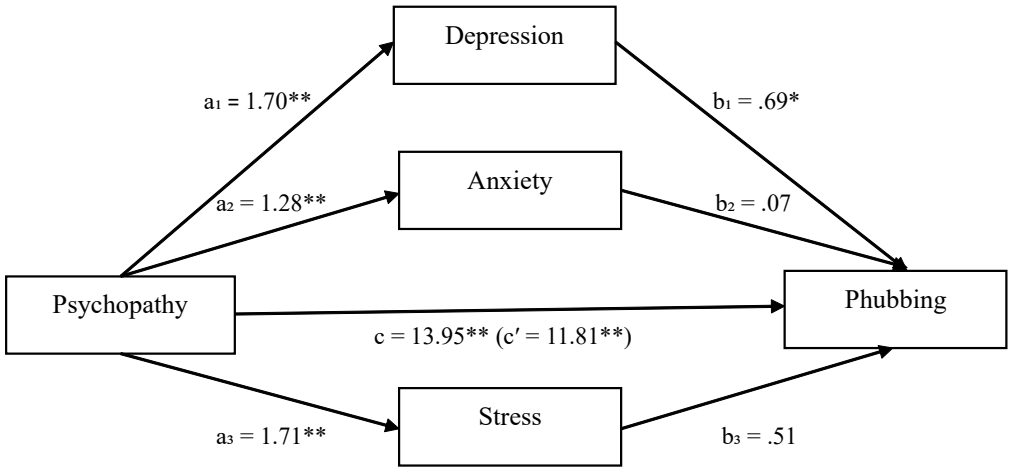


Figure 4 revealed a significant indirect effect of psychopathy on phubbing through depression [B = 1.17, SE = 0.60], 95% CI [0.13, 2.43]. Psychopathy positively predicted depression (a_1 = 1.70, p < .001), which in turn positively predicted phubbing (b_1 = 0.69, p = .028). The indirect effect through anxiety was not significant [B = 0.09, SE = 0.39], 95% CI [−0.63, 0.97]. Psychopathy positively predicted anxiety (a_2 = 1.28, p < .001), but anxiety did not significantly predict phubbing (b_2 = 0.07, p = .817). Similarly, the indirect effect through stress was not significant [B = 0.88, SE = 0.58], 95% CI [−0.20, 2.11]. Psychopathy positively predicted stress (a_3 = 1.71, p < .001), but stress did not significantly predict phubbing (b_3 = 0.51, p = .093). Thus, higher psychopathy increased depressive symptoms, which in turn increased phubbing behavior, while anxiety and stress did not mediate this relationship.

Figure 4

Depression, Anxiety, and Stress as mediators between Psychopathy and Phubbing



Discussion

The present study examined the relationship between dark triad personality traits and phubbing behavior among young adults. The findings revealed that all three dark triad traits were positively associated with phubbing. These findings are consistent with the Uses and Gratification Theory, which suggests that individuals use smartphones and social networking sites to satisfy various personal needs, including enjoyment, appreciation, social comparison, and maintaining relationships (Grieve et al., 2021). Individuals with dark triad traits are particularly driven by self-interest and the fulfillment of their own desires, and smartphones provide an easily accessible platform for meeting these needs (Akat et al., 2023). Consequently, they may become more engrossed in their mobile devices and exhibit phubbing behavior without considering the social consequences of ignoring others in face-to-face interactions.

The positive associations of Machiavellianism and psychopathy with phubbing can be understood in light of the interpersonal characteristics of these traits. Individuals high in Machiavellianism tend to prioritize their own goals, display limited empathy, and prefer strategic and goal-oriented communication over genuine interpersonal connections (Jones & Paulhus, 2011). Similarly, psychopathy is characterized by callousness, impulsivity, and a disregard for the feelings and well-being of others (Hare, 2003), making individuals with these traits more likely to engage in self-centered behaviors such as phubbing. Previous research has consistently demonstrated that dark triad traits are associated with problematic smartphone use, problematic social media use, cyberbullying, cyber-trolling, and other antisocial online behaviors (Barberis et al., 2023; Kircaburun et al., 2018; March & Marrington, 2023). Although narcissism was positively correlated with phubbing, it did not emerge as a significant predictor in the regression model, suggesting that its association with phubbing may be weaker when considered alongside the other dark triad traits.

The study further investigated the mediating effect of psychological distress. Depression emerged as the only significant mediator, mediating the relationship of Machiavellianism and psychopathy with phubbing,

whereas anxiety and stress did not significantly mediate these relationships. In contrast, psychological distress did not mediate the association between narcissism and phubbing. These findings are consistent with the Interaction of Person-Affect-Cognition-Execution (I-PACE) model (Brand et al., 2019), which conceptualizes problematic technology use as the outcome of interactions among personal characteristics, emotional experiences, cognitive processes, and behavioral responses. Within this framework, dark triad traits represent predisposing personal factors that may contribute to emotional difficulties, particularly depressive symptoms, which in turn increase individuals' reliance on smartphones and contribute to phubbing. Findings are supported by literature, which states that Machiavellianism and psychopathy are both positively associated with depressive and anxiety symptoms (Jonason et al., 2015), as well as stress (Richardson & Boag, 2016). Furthermore, depression, anxiety and stress are significant predictors of phubbing (Sun & Samp, 2022).

According to Gómez-Leal et al. (2019), individuals with higher levels of Machiavellianism and psychopathy tended to report higher levels of depressive symptoms. Individuals with depression may engage in phubbing as a way to escape from their depressive thoughts and feelings (McDaniel & Coyne, 2016), as smartphones provide a temporary distraction from emotional distress. The findings also align with previous research demonstrating that unmet psychological needs and negative emotional experiences contribute to excessive smartphone use and phubbing through maladaptive coping mechanisms (Butt & Arshad, 2020). Taken together, the present findings suggest that the relationship between dark triad traits and phubbing is not solely a direct one; rather, depressive symptoms constitute an important psychological pathway through which individuals high in Machiavellian and psychopathic traits may become increasingly engaged in phubbing.

The relationship between narcissism and phubbing was not mediated by depression, anxiety or stress. One possible explanation for this could be that narcissism has two subtypes, Grandiose and Vulnerable, and each one is characterized by distinct features and behaviours (Pincus & Lukowitsky, 2010). Grandiose narcissism is characterized by grandiosity, lack of empathy, high self-esteem, interpersonal manipulativeness and, whereas vulnerable narcissism is characterized by low self-esteem, interpersonal avoidance, mood instability and hypersensitivity to criticism (Miller et al., 2011). In this study, to measure dark triad traits, the Short Dark Triad (SD3) scale was used, which measures grandiose narcissism. Unlike grandiose narcissism, vulnerable narcissism has been linked with psychological distress (Papageorgiou et al., 2019).

Limitations and Suggestions

The current study's cross-sectional, student-based, self-report approach limits generalization and causal findings. Future research on the connection between dark triad personality traits, phubbing and psychological distress should employ longitudinal, cross-cultural, mixed-method, and intervention-based investigations.

Implications

The findings of the present study have important practical and theoretical implications. Phubbing will continue to gain relevance in the upcoming years, as seen by the massive global adoption of smartphones, and it has numerous detrimental effects on both those who engage in it and those who are exposed to it. This research can aid in comprehending the idea of phubbing, which can seriously harm interpersonal relationships. This study helps in identifying the personality traits, specifically negative personality traits, that are associated with and predict phubbing. Furthermore, the findings highlight the importance of addressing psychological distress among young adults and provide a basis for developing interventions aimed at reducing problematic smartphone use and improving interpersonal relationships.

Conclusion

The current study explored the relationship between dark triad traits and phubbing and found that individuals higher in Machiavellianism and psychopathy are more likely to engage in phubbing, while narcissism does not independently contribute to this behavior once the other two traits are accounted for.

Findings suggested that depression in particular functions as a partial mediating mechanism linking Machiavellianism and psychopathy to phubbing, whereas narcissism's link to phubbing appears to operate through pathways unrelated to depression, anxiety, or stress. The results underscore the significance of creating interventions targeted at decreasing phubbing, especially in people with elevated dark triad features and psychological distress.

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