

MEDIATING ROLE OF ALTRUISTIC BEHAVIOR IN RELATIONSHIP OF
MENTAL HEALTH AND DARK PERSONALITY TRAITS AMONG UNIVERSITY
STUDENTS

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Abstract

The purpose of the study is to examine the connection between dark personality traits such as Machiavellianism, narcissism, psychopathy, and sadism with their contribution to altruistic behavior and mental health in Pakistan among university students. Having in mind the collectivist cultural background, the study addresses the influence of these maladaptive characteristics on prosocial intentions and psychological wellbeing, especially the symptoms of depression, anxiety, and stress. There were 304 students that took part in this cross-sectional quantitative study. The validated Urdu versions of the Short Dark Tetrad (SD4), Self-

Report Altruism Scale (SRAS), and the Depression Anxiety Stress Scales (DASS-21) were used for data collection. It is believed that the majority of dark traits will have negative correlations with altruism and mental health indices, but narcissism can have more complex patterns because of its social interactive nature. Data analysis will involve the use of descriptive statistics which will summarize demographics and scale distributions and then Pearson correlations to determine relationships between variables. The predictive value of each dark trait will be established using multiple regression analysis to establish the role of each trait in the formation of altruistic behavior and mental health outcomes. Independent samples t-tests will be performed where necessary to address the differences depending on gender. The reliability of each measure will be assessed with the help of Cronbach alpha. The paper fills an important research vacuum in Pakistan and

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contributes to the creation of culturally sensitive mental health interventions among young adults.

INTRODUCTION

Personality refers to stable yet changeable patterns of thoughts, emotions, and behaviors shaped by traits and life transitions such as emerging adulthood (McCrae & Costa, 2008; Bleidorn, Hopwood & Back, 2021). While the Five-Factor Model reflects adaptive traits, dark traits including Machiavellianism, narcissism, psychopathy, and sadism represent manipulative and callous interpersonal styles (Jones & Figueredo, 2013; Marcus, Preszler & Zeigler-Hill, 2018). These darker traits overlap but differ in their motivational and behavioral tendencies (Moshagen, Hilbig & Zettler, 2018).

Machiavellianism is defined as a strategic, manipulative personality style marked by distrust, emotional detachment, and a calculated pursuit of personal gain (Jones & Paulhus, 2017; Collison, Vize & Miller, 2018). Individuals high in this trait use deception and exploitation to achieve instrumental goals such as power or status, while carefully weighing risks and benefits (Dahling, Kuyumcu & Librizzi, 2012). Trait Activation Theory suggests that Machiavellian behaviors increase when environments signal opportunities for reward (Birkás et al., 2015). Their cynical worldview and chronic distrust contribute to stress, dissatisfaction, and preemptive manipulation (Dahling, Whitaker, & Levy, 2009; Schepers, 2003).

Psychopathic individuals have shallow affect, absence of empathy, impulsiveness and antisocial personality (Hare, 1996; Cleckley, 1941; Williams, Paulhus, & Hare, 2007). Modern theories ascribe such characteristics to losses in emotional processing and

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prefrontal functioning resulting in poor decision-making and weak inhibition (Blair, Newman, & Mitchell, 2006; Yang & Raine, 2009; Nickerson, 2014). Modern attitudes consider psychopathy as dimensional as defined in boldness, meanness, and disinhibition in the Triarchic Model (Patrick, Fowles, & Krueger, 2009; Patrick & Drislane, 2015; Sellbom, 2018). The study also states that such features that are non-clinical (charm, manipulation, and low empathy) are present on a continuum (Lilienfeld & Widows, 2005) and are overlapping with Machiavellianism, especially in affective deprivation (Glenn & Sellbom, 2015; Persson, Kajonius, & Garcia, 2019).

Narcissism is the state characterized by grandiosity, entitlement, and the desire to be admired (Jones & Figueredo, 2023; Campbell, Miller & Buffardi, 2010). It is based on the legend of Narcissus and it represents an extreme selfishness that interferes with interpersonal functioning. Contemporary theories are conceptualizing the narcissism as an attempt to self-regulate where individuals are seeking social validation to support the exaggerated self-perceptions (Campbell, Brunell, & Finkel, 2006). They turn to self-enhancement behavior and self-serving biases to defend superiority (Morf & Rhodewalt, 2001). As perceived, they might be lacking compassion, but studies indicate that they have cognitive empathy, yet they do not use it (Hepper, Hart, & Sedikides, 2014). Modern-day work emphasizes both agentic and antagonistic elements of narcissism (Jonason & Fletcher, 2018; Rogoza, Zemojtel-Piotrowska & Campbell, 2018).

Sadism is defined as taking pleasure in causing or witnessing harm and is not merely limited to the forensic situations but is also manifested in normal settings (O'Meara, Davies, & Hammond, 2011; Buckels, Jones, & Paulhus, 2013). Ordinary or mundane sadism is a behavior manifested in teasing, mean humor, or negative amusement and is a non-criminal type of emotional aggression (Baumeister & Campbell, 1999; Buckels et al., 2013).

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Research indicates that sadistic tendencies are present within community and forensic groups, with mild callous amusement, and serious violence (Mokros, Schilling, Nitschke, & Eher, 2014). In contrast to dominance-based qualities, sadism is driven mostly by enjoyment, not by dominance (Book et al., 2016; Paulhus, 2014), which makes it the most destructive feature of the Dark Tetrad (Jonason & Zeigler-Hill, 2018; Diniic & Jevremov, 2019).

Altruistic behavior is described as the behavior that aims to help others at a personal expense (Batson, Ahmad, & Lishner, 2020; Oda et al., 2014). Generosity and cooperation is a natural characteristic of humanity, and can be observed within economic games where people can voluntarily share resources. Helping, sharing, comforting, and cooperating are core prosocial behaviors that promote social functioning and stability within a given community (Eisenberg, Fabes, & Spinrad, 2006; Batson & Powell, 2003). Altruism is appreciated in collectivist culture, such as Pakistan, where it increased emotional and social togetherness (Batson, 2022), which promotes trust, social acceptance, and leadership (Simpson & Willer, 2015). Low dark people, on the other hand, usually demonstrate low empathy and low prosocial interaction (Sariyska et al., 2022).

Mental health can be defined as the capacity to handle stresses experienced in everyday life, work effectively and benefit society (WHO, 2004). Well-being entails emotional, psychological, and social functioning (Keyes, 2006, 2014). The results indicate recovery, independence and valuable involvement in the life of the community (Mental Health Commission of Western Australia, 2020). Stress is characterized by physiological and psychological responses to internal or external demands (Butler, 1993), anxiety is characterized by unpleasant feelings of threat (Sun et al., 2016), and depression is characterized by unceasing sorrow and disability (APA, 2018). The relationships between

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dark traits and altruism and mental health among Pakistani students can be used to inform culturally sensitive interventions to promote the well-being of young people.

Literature Review

Paulhus and Williams (2002) developed the Dark Triad conceptualization of Machiavellianism, narcissism, and psychopathy, which was later extended by everyday sadism to make the Dark Tetrad (Buckels, Jones & Paulhus, 2013). Such characteristics are socially objectionable, and narcissism tends to demonstrate pseudo-altruism (Jonason, Li & Teicher, 2010; Book, Visser & Volk, 2016).

Machiavellianism is about manipulation, strategic planning, as well as instrumental social behavior. Recent organizational studies associate Machiavellian qualities with burnout: Machiavellianism is a Dark Triad trait that positively predicts burnout through extrinsic motivation (Prusik & Szulawski, 2019). High Machiavellianism can pay off in the short term by bringing career benefits in the workplace through deception but the long-term performance tends to be negatively affected by the lack of trust and stability (Gkorezis, Petridou & Krouklidou, 2015).

Contemporary psychopathy is dimensional zed, with such characteristics as callousness, disinhibition, and impulsivity being emphasized. According to recent studies on adolescents, the psychopathy construct includes the characteristics of grandiose-manipulative, callous-unemotional, and bold-daring (Salekin, Debus & Barker, 2017; Frick, 2022). Research has shown that full psychopathy construct is more predictive of persistent antisocial behavior. Psychopaths usually have problems with emotional control and empathy, which puts them at risk of aggression and maladaptive interpersonal consequences (Lobbestael & Freund, 2021).

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Narcissism is based on the Greek legend about Narcissus who was a symbol of vanity and excessive self-centeredness. Psychology differentiates between grandiose narcissism and vulnerable narcissism, which suggests a lack of insecurity and hypersensitivity respectively (Sedikides et al., 2004; Krizan & Herlache, 2018). According to meta-analytic results, grandiose narcissism is positively associated with well-being, and vulnerable narcissism negatively forecasts poorer well-being because of lower self-esteem (Agyemang & Asante, 2023). It has also been studied that grandiose narcissists employ more self-enhancement humor, and vulnerable narcissists are less emotionally intelligent and defensively have interpersonal patterns (Current Psychology, 2021; Krizan & Herlache, 2018).

Sadism is defined as taking pleasure in the pain of another person, and it was the title of Marquis de Sade. Everyday sadism is used in psychology to refer to non-sexual, subclinical pleasure in the suffering of other people (Paulhus & Dutton, 2016). It has recently been shown to predict other harmful behaviors besides psychopathy and Machiavellianism in a unique way (Lobbestael et al., 2024). As the experimental research between everyday sadists shows, they are eager to perform inhuman actions and strongly correlate with psychopathic cold-heartedness (Lobbestael & Freund, 2019). It is also related to rape-myth acceptance and vaccine refusal by culturally relevant research (Saravia Lalende et al., 2023).

The Dark Tetrad characteristics, narcissism, Machiavellianism, psychopathy, and sadism, are not entirely unrelated and affect emotional regulation, social functioning, and well-being in different ways. Narcissism can be beneficial to self-esteem, whereas Machiavellianism, psychopathy, and sadism are maladaptive, associated with aggression and bad psychological health (Furnham et al., 2019; Kotian et al., 2022; Nazz, 2022).

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Altruism, being prosocial, can be a cause of distress in case the empathic impulses are suppressed (Ye et al., 2023). Darkness diminishes true altruism and social connectedness, and it makes people more susceptible to depression and anxiety, which is why culturally sensitive interventions that support prosocial behavior and emotional stability are necessary (Dolan, 2025; Roth et al., 2023).

Objectives

To explore the association between dark personality traits, altruistic behavior and mental health outcome among university students, including the mediating role of mental health and potential gender differences.

Hypothesis

1. The relationships between altruistic behavior and Machiavellianism and narcissism are positive, whereas, psychopathy and sadism are negatively correlated.
2. Dark personal traits have a positive interrelationship.
3. Psychopathy has a positive predictive value of depression, anxiety and stress and sadism positively predicts depression and anxiety but not stress.
4. The psychological distress (depression, anxiety, stress) is not significantly predicted by Machiavellianism and narcissism.
5. There are gender and age variations in dark features, altruistic and psychological distress.
6. There is a possibility of altruism mediating the relationship between sadism and depression/anxiety but no other characteristics or stress.

METHOD

Sample

The main study sample consisted of participants (N=304), further categorized into males (N = 167) and female (N = 137). Participants' ages were divided into two groups: 18-s21 years and 22-25 years, with an overall mean age of M = 1.66, SD = 0.47s. Data were collected through convenient sampling technique from various public and private universities of Faisalabad. Education of participants was categorized into four levels: BS/BA, MA/MS, MPhil, and Other (MBBS, BDS, Nursing, etc.).

Demographic Form

The demographic form was designed to gather information about variables potentially linked with the main study variables. Demographic variables include gender, number of siblings, marital status, degree program, field of study, institution type, year of study, family system, current living arrangement, residence, physical illness and socioeconomic status.

Short Dark Tetrad Scale (SDT)

The Urdu version of the Short Dark Tetrad (SDT) was used to assess four socially aversive personality traits (Machiavellianism, Narcissism, Psychopathy, and Sadism). SDT is a self-report scale, rated on a measure 28 items rated on five-point likert scale, ranging from 1(Strongly Disagree) to 5 (Strongly Agree). Short Dark Tetrad Scale subscales consisted of Machiavellianism (item 1–7), Narcissism (item 8–14), Psychopathy (item 15–21), and Sadism

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(item 22–28). The total reliability of the scale in the present study is $\alpha = 0.84$, while subscale reliabilities are Machiavellianism: $\alpha = 0.68$, Narcissism: $\alpha = 0.78$, Psychopathy: $\alpha = 0.69$ and Sadism: $\alpha = 0.74$.

Self -Report Altruistic Scale

The Urdu version of the Self Report Altruistic Scale was employed to measure altruistic tendencies. Participants rated statements regarding helping behavior and prosocial actions. It was rated on measure of 14 items on five point likert scale, varying from 1= Never to 5= Always.

The overall reliability was $\alpha = 0.81$, indicating satisfactory internal consistency.

Depression Anxiety Stress Scale (DASS-21)

The Urdu version of DASS-21 was used to assess psychological distress in three domains: Depression, Anxiety, and Stress. Items were rated on a Likert-type scale, ranging from 0 (Never) to 3(Always). The Depression subscale included items 1, 6, 8, 11, 12, 14, and 18, the

Anxiety subscale included items 2, 4, 7, 9, 15, 19, and 20, and the Stress subscale included items

3, 5, 10, 13, 16, 17, and 21. The reliability of the overall scale was $\alpha = 0.87$, with subscale reliabilities of Depression ($\alpha = 0.76$), Anxiety ($\alpha = 0.71$), and Stress ($\alpha = 0.69$).

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Procedure

The Research Collected Data In Faisalabad Universities. The Consent Forms, Demographics And Questionnaires Were Completed Individually By The Students. Out Of 350 Made Out, Some Were Incomplete Or Outliers. Having Had Them Eliminated, 304 Valid Responses Were Left. The Time Of Testing Was 15-20 Minutes And The Participants Were Appreciated In Their Cooperation.

Results

Table 1

Descriptive Statistics and Alpha Reliabilities for All Study Variables (N=304)

Scales	<i>k</i>	<i>M</i>	<i>SD</i>	<i>a</i>	Potential Range	Actual Range	Skewness
SDTS	28	85.47	13.63	0.84	28-140	33-115	-0.38
Machiavellianism	7	26.06	4.62	0.68	7-35	9-35	0.01
Narcissism	7	23.30	5.45	0.78	7-35	7-35	-0.22
Psychopathy	7	19.91	4.83	0.69	7-35	7-35	0.02
Sadism	7	19.04	5.19	0.74	7-35	7-31	-0.17
SRAS	14	44.18	9.70	0.81	14-70	25-70	0.48
DASS-21	21	23.53	10.01	0.87	0-63	0-63	0.11
Depression	7	7.66	4.13	0.76	0-21	0-21	0.30
Anxiety	7	6.95	3.86	0.71	0-21	0-21	0.21
Stress	7	8.92	3.71	0.69	0-21	0-21	0.38

Note. SDTS = short dark tetrad scale; SRAS = self-report altruistic scale; DASS-21= depression anxiety and stress scale-21

Table 1 shows reliability and descriptive statistics. SDQ $\alpha = 0.83$, Altruistic Scale $\alpha = 0.81$, DASS-21 $\alpha = 0.86$. Means of SDQ = 85.41(SD=13.86), of Altruistic Scale = 44.12(SD=9.76), of DASS-21 = 23.48(SD=10.00). Skewness less than 2 proved normality. Reported actual and potential ranges provide the distribution of responses of the participants of all scales.

Table 2

Correlational Matrix for All the Variables Used in The Study (N = 304)

Scale	1	2	3	4	5	6	7	8	9	10
1	–	0.57***	0.80***	0.64***	0.73***	0.08	0.34***	0.34***	0.35***	0.17**
2		–	0.52**	0.02	0.05	0.39***	0.09	0.09	0.10	0.05
3			–	0.25***	0.37***	0.20***	0.17**	0.17**	0.20***	0.05
4				–	0.60***	-0.15**	0.36***	0.34***	0.35***	0.23***
5					–	-0.19***	0.35***	0.35***	0.35***	0.18**
6						–	0.01	-0.02	0.01	0.04
7							–	0.88***	0.86***	0.82***
8								–	0.66***	0.57***
9									–	0.55***

Note. 1= Short dark tetrad scale, 2 = machiavellianism, 3 = narcissism, 4 = psychopathy, 5 = sadism, 6 = self-report altruistic scale, 7 = depression anxiety stress scale-21, 8= depression, 9 = anxiety, 10 = stress.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2 presents Pearson correlations. The relationship between Machiavellianism and altruism was positive ($r=0.39^{**}$), narcissism was positive ($r=0.20^{**}$), psychopathy was negative ($r= -0.15$), and sadism was negative ($r= -0.19$). DASS-21 had positive correlations with psychopathy and sadism ($r=0.36^{***}$, $r=0.35^{***}$). Altruism had a weak relationship with DASS21 ($r=0.01$). Dark factors were interrelated, e.g. Machiavellianism-narcissism $r=0.52$.

Table 3

Means, Standard Deviations t-Value for Age among Study Variables (N=304)

Scales and Subscales	18-21 years (N = 103)		22-25 Years (N= 201)		t (304)	95% CI		Cohen's d
	M	SD	M	SD		LL	UL	
SDQ	83.59	12.09	86.44	14.29	-1.82	-5.92	0.22	1.12
Machiavellianism	25.18	3.70	26.52	4.98	-2.60**	-2.33	-0.34	0.32
Narcissism	22.69	4.93	23.61	5.68	-1.45	-2.16	0.32	0.17
Psychopathy	19.58	5.26	20.08	4.59	-0.85	-1.65	0.65	0.10
Sadism	18.95	5.19	19.08	5.19	-0.21	-1.37	1.10	0.03

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Altruistic Scale	42.70	9.21	44.93	9.88	-1.90*	-4.53	0.07	0.23
DASS-21	22.90	10.08	23.86	9.97	-0.78	-3.34	1.43	0.09
Depression	7.41	4.23	7.78	4.06	-0.73	-1.35	0.61	0.09
Anxiety	6.40	3.80	7.22	3.86	-1.76	-1.73	0.09	0.21
Stress	9.07	3.84	8.84	3.65	0.51	-0.65	1.11	0.06

Note. SDQ= Short dark tetrad scale; DASS-21= depression anxiety stress scale-21

* $p < 0.05$, ** $p < 0.01$

Table 4

Means, Standard Deviations t-Value for Gender among Study Variables (N=304)

Scales and Subscales	Males (N= 167)		Females (N= 137)		t(304)	95% CI		Cohen's d
	M	SD	M	SD		LL	UL	
SDQ	89.74	12.83	80.27	12.78	6.40***	6.55	12.37	0.73
Machiavellianism	26.75	5.33	25.22	3.41	3.01**	0.52	2.51	0.34
Narcissism	24.85	5.50	21.41	4.77	5.83***	2.28	4.60	0.66
Psychopathy	20.52	4.31	19.17	5.31	2.38*	0.23	2.45	0.27
Sadism	20.53	4.56	17.21	5.34	5.75***	2.18	4.45	0.66
Altruistic Scale	44.24	10.39	44.10	8.82	0.13	-2.02	2.31	0.01
DASS-21	24.94	8.10	21.81	11.72	2.64**	0.79	5.45	0.31
Depression	8.32	3.53	6.85	4.64	3.05**	0.52	2.41	0.35
Anxiety	7.79	3.56	5.91	3.96	4.34***	1.02	2.72	0.49
Stress	8.82	3.12	9.04	4.33	-0.49	-1.08	0.65	0.05

Note. SDQ= Short dark tetrad scale; DASS-21= depression anxiety stress scale-21

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3 and Table 4 indicate age and gender variation among variables of the study. The old participants (22-25 years) rated higher on Machiavellianism (M=26.52, SD=4.98) and altruism (M=44.93, SD=9.88) as compared to the young ones (18-21 years; M=25.18, SD=3.70; M=42.70, SD=9.21) $t = -2.60$, and $t = -1.90$. SDQ total (M=89.74 vs 80.27, $t = 6.40^{***}$) and Machiavellianism (M=26.75 vs 25.22, $t = 3.01^{**}$), narcissism (M=24.85 vs 21.41, $t = 5.83^{***}$), psychopathy (M=20.52 vs 19.17, $t = 2.38^{***}$), sadism (M=20.53 vs 17). Age and gender did not show any major differences in altruism and stress.

Table 5

Regression analysis for Altruistic Scale, Depression, Anxiety and Stress from the construct of Short Dark Tetrad Scale (N= 304)

Variables	Altruistic Scale			Depression			Anxiety			Stress		
	β	R^2	F	β	R^2	F	β	R^2	F	β	R^2	F
Machiavelli anism	0.72 ***	0. 22	20.86 ***	0.07 15	0. ***	14.02 ***	0.05 16	0. ***	14.40 ***	0.0 6	0. 06	5.1 3**
Narcissism	0.22 *			- 0.01			0.03			- 0.0		
Psychopath y	- 0.11			0.17 **			0.17 ***			0.1 5**		
Sadism	- 0.43			0.18 ***			0.14 **			0.0 6		

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5 shows a regression that predicts altruism and psychological distress. The variance of altruism $R^2 = 0.22$: Machiavellianism 0.72, narcissism 0.22, sadism -0.43. Depression $R^2 = 0.15$: psychopathy = 0.17, sadism = 0.18. Anxiety $R^2 = 0.16$: psychopathy 0.17*** sadism 0.14. Stress $R^2 = 0.06$: psychopathy $\beta = 0.15^{**}$. Psychological distress was not predicted by Machiavellianism and narcissism.

Table 6

Mediation Analysis of Altruism in The Relationship Between Dark Personality Traits and Mental Health Outcomes (N=304)

Mediation Model	a Path (Predictor → Altruism)	b Path (Altruism →Outcome)	Direct Effect (c' Path)	Indirect Effect (a × b)	95% CI (Bootstrapped)
Machiavellianism → Altruism	a1 = 0.288**	b1 = -0.15*	c' = 0.08 (ns)	-0.042	[-0.085, -0.012]
Depression					
Machiavellianism → Altruism	a1 = 0.288**	b2 = -0.18**	c' = 0.06 (ns)	-0.050	[-0.094, -0.018]
Anxiety					

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Machiavellianism	a1	=	b3 = -0.12*	c' = 0.05	-0.034	[-0.072, -0.009]
→ Altruism→	0.288**			(ns)		
Anxiety						
Sadism	→ a2=	-	b1= -0.15*	c' = 0.050		[0.020, 0.090]
Altruism	→ 0.33***			0.16**		
Depression						
Sadism	→ a2=	-	b2= -0.18**	c' = 0.12*	0.059	[0.025, 0.102]
Altruism→	0.33***					
Anxiety						
Sadism	→ a2=	-	b3= -0.12*	c' = 0.039		[0.012, 0.072]
Altruism→	0.33***			0.04(ns)		
Anxiety						

Note. Paths represent standardized β values. Bootstrapped estimates were based on 5000 resamples. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ns = non-significant.

Table 6 shows that altruism fully mediates Machiavellianism on depression ($\beta=0.07$), anxiety ($\beta=0.05$), stress ($\beta=0.06$), and partially/fully mediates Sadism on depression ($\beta=0.18$), anxiety ($\beta=0.14$), stress ($\beta=0.06$).

Discussion

The current research was an attempt to establish the connection between dark personality traits, altruism, and mental health outcomes in university students. Results showed that Machiavellianism and narcissism were positively correlated with the altruistic behavior whereas psychopathy and sadism had a significant negative correlation. Such results

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demonstrate that not every dark trait is a consistent predictor of antisocial tendencies, but in fact, some of them can be co-morbid with prosocial or self-serving helping behaviors. Jonason and McCain (2020) also used similar findings by stating that people high in Machiavellianism tend to adhere to strategic helping behaviours to sustain social advantage. Narcissistic people might also show selfless behavior when it becomes self-enhancing (Lannin et al., 2020). Nonetheless, as it is common in past studies, altruism was negatively correlated with psychopathy and sadism, which are characterized by the absence of empathy and the emotional coldness (Paulhus et al., 2021; Vize et al., 2018). In addition, the outcomes also presented that psychopathy and sadism were significantly positively associated with depression, anxiety, and stress, which underscores their harmful effects on the psychological state. This result is consistent with the report by Thomaes and his colleagues (2017), who noted that participants with larger amounts of dark personality traits are more vulnerable to emotional dysregulation and dysfunctional coping. Machiavellianism and narcissism, on the other hand, exhibited weaker or inconsistent relations with mental health indicators, which indicates that these qualities do not necessarily relate to distress but might affect it as a result of personal conflicts or stress-provoking social behavior (Hyatt, MaplesKeller & Miller, 2022). The insignificant correlation of altruism and mental suffering suggests that the occurrence of altruistic activity in the cohort of young adults can be more a social than an emotional process, a trend that was also found by Khan and Qureshi (2021) who discovered that the prosocial behavior of Pakistani students is not necessarily guided by inherent emotional control. Gender and age-wise analyses showed that males rated a lot higher on all the dark personality dimensions and recorded higher levels of psychological distress than females, which is also in alignment with earlier cross-cultural studies (Grijalva et al., 2015; Dinić &

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Wertag, 2022). Nevertheless, no gender difference was found in acts of altruism implying that both male and female students are found to show similar prosocial orientations in collectivistic societies like Pakistan where social responsibility and moral obligation are given priority (Safdar, Iqbal & Malik, 2023). The huge age gap between Machiavellian and altruism suggests that socially mature and strategic prosocial behavior can be found in older emerging adults. All in all, these results indicate that the relationships between personality, altruism, and mental health are complicated, and interventions aimed at empathy, emotional regulation, and moral awareness might be used to lessen the undesirable impact of the dark side and increase the well-being of university communities.

Limitation and Suggestions

The current research design which is a cross-sectional and student-based, self-report design restricts causal inferences and generalization. Longitudinal, cross-cultural, mixed-method, and intervention-based studies should be used in future studies to investigate the relationship between dark traits and altruism with mental health outcomes.

Implications

Findings indicate that altruism can mitigate the adverse effect of dark personality traits on mental health. The ways to intervene in the future could be aimed at empathy, moral reasoning, and emotional regulation to alleviate depression, anxiety, and stress in students.

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Conclusion

This paper points out that Machiavellianism and narcissism are potentially related with strategic altruism and psychopathy and sadism are linked with psychological distress. Not every dark side is maladaptive; the results are determined by motives and situation. Encouraging mental health awareness, prosocial, and emotional awareness is a key to the well-being of emerging adults.

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