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Dark Triad Personality Traits Impulsivity and Aggression in Adolescents

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Abstract

Background. Study explored the dark triad traits (psychopathy, Machiavellianism and narcissism) predictive relationship with aggression and impulsivity in school going children.

Method. In a cross-sectional design with a purposive sample of 200 school-going boys and 200 girls (*N* = 400), 8th-10th grade, age range of 14-17 years were conveniently taken from government and private schools. We used Dark Triad of Personality (D3- Short, Jones & Paulhus, 2014), Barratt Impulsiveness Scale (BIS-11, Stanford et al., 2009), and Aggression Questionnaire (AQ, Buss & Perry, 1992).

Results. Results revealed dark traits (psychopathy, Machiavellianism and narcissism) significantly and positively associated with impulsiveness (Motor Impulsiveness, Non-planning impulsiveness and Attentional impulsiveness) and aggression (Verbal Aggression, Physical Aggression, Anger and Hostility). Boys expressed higher average levels of dark traits, impulsiveness and aggression than girls; and dark traits and gender predicted impulsiveness (44%) and aggression (35%).

Conclusion. The study has significant implications especially in educational and school settings.

Keywords. Dark triad personality traits, machiavellianism, narcissism, psychopathy, impulsivity, aggression.

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Introduction

Paulhus and Williams (2002) proposed that Dark Triad is a constellation of further three personality traits i.e., narcissism, psychopathy and Machiavellianism that are associated with various interpersonal problems and behaviors which are naturally considered cataclysmic. All these traits share main features such as emotional coldness, social aversion, duplicity, impulsiveness and aggressiveness, with latter two prevailing in children and adults. This is evident from content shared on social media that is believed to develop these dark traits such as self-glorification, emotional distantness and aggressive tendencies. Examples of scathing posts about statuses and activities of others (e.g., on Facebook) denote Dark triad traits in action related to neurotic behaviors (Garcia & Sikström, 2014). The five factor models of personality: openness, conscientiousness, extraversion, agreeableness, and neuroticism (OCEAN) or Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience (HEXACO) faced criticism because they did not include socially malevolent personality traits present in clinical and normal populations or did not provide antisocial behaviors (Muris et al., 2017; Veselka et al., 2012). Hence Dark triad of personality traits (Paulhus & Williams, 2002) clearly and uniquely define three personality traits that are socially aversive and represent the dark side of human nature.

Impulsivity

From the past ten years of empirical research on the dark triad personality traits suggests there are no clear consensus on these traits or their relations to other human behaviors e.g., dark traits relate to impulsivity but not procrastination in male and female college students; male students scored higher on impulsivity than female students. Impulsivity was significantly associated with procrastination however, procrastination was not predicted by any dark traits (Sargent, 2019). Surprisingly, Machiavellianism was positively related to planning (possibly opposite to procrastination) in men but negatively for women. In addition, narcissism in men negatively associated with non-planning impulsivity and so did Machiavellianism, but positively with psychopathy. For women, all dark traits were positively associated with non-planning impulsivity. with all in women. Finally, psychopathy and Machiavellianism like above studies was positively related to impulsivity (Szabó & Jones, 2019). The constructs of dark triad traits had strong associations with impulsivity and they are considered manipulative and callous in nature (Wackler, 2021). In the same manner, Crysel, Crosier and Webster (2013) investigated associations of dark triad personality traits (i.e., Machiavellianism, narcissism, and psychopathy) with impulsiveness and behaviors of risk taking and sensation seeking. Their findings indicated that there was a positive relationships of dark traits with impulsive behavior and sensation seeking as well as with risk taking behaviors.

Aggression

Dark traits of personality predict aggression in adults (Barlett, 2016); and have unique relations with direct and indirect forms of aggressive behaviors in adolescents (Klimstra et al., 2014); and common dark factor (i.e. callousness and manipulation) predicting aggression. However, the individual dark traits distinctively predicted different sides of aggression. Hostility was positively predicted by Machiavellianism, narcissism negatively predicted hostility and psychopathy positively predicted physical aggression (Jones & Neria, 2015). Psychopathy exhibited a strong positive relationship with cyber aggression and neither Machiavellianism nor narcissism had any relationship (Pabian et al., 2015). Sher and Fatima (2016) found dark traits predicted bullying and victimization in adolescents; in particular Machiavellianism and psychopathy predicted bullying, and narcissism, victimization. Lyons et al. (2019) reported dark personality traits predicted aggressiveness with increased interest in sex. For this purpose, dream content was analyzed, and the findings revealed Machiavellianism and psychopathy associated with aggressive dreams while narcissism and psychopathy with sexual dreams.

With some conflicting results, this brief review suggests, dark traits Machiavellianism, psychopathy and narcissism predict various forms of impulsivity and aggression. The major question is, do these relationships hold true for school-going adolescents in Pakistan? And if so, can we validate and confirm various of forms of impulsivity and aggression in male and female adolescents that could be accounted by the dark traits? We expect dark triad personality traits would predict impulsivity and aggression and their various kinds in school-going adolescents. Relationship strengths among these factors would be stronger in boys than girls.

Method

Sample

A convenient sample of 200 school-going boys and 200 girls (N = 400) o age ranging to 14-17 years (M =14.73, SD = .86) studying in 8-10 grades were taken from private and government schools and were included in the study, anyone above or below this age or grade range were excluded from the study.

Assessment Measures

Dark Triad of Personality (Short-D3). Developed by Jones and Paulhus (2014) D3-Short which is a questionnaire that is self-reported and it consists of 27 items that assess Dark Triad traits, further divided into three subscales each consisting 9 items: Machiavellianism (M, e.g., *It's not wise to tell your secrets*), Narcissism (N, e.g., *People see me as a natural leader*), and Psychopathy, (P, e.g., *I like to get revenge on authorities*). Each item was measured on a 5-point Likert scale where 1 = disagree strongly to 5 = agree strongly. Scores of each subscale were calculated by reverse coding 5 items (11, 15, 17; narcissism and 20, 25; psychopathy) and after that the mean of the 9 items within each subscale was calculated. The questionnaire was adapted and translated by Sher and Fatima (2016) in Urdu to assess the above dark triad traits for Urdu speaking communities. Reliability (r = .68 to .74) of Short-D3 was moderate (Fatima, 2016).

Barratt Impulsiveness Scale (BIS-11). BIS-11 is a self-report measure which consists of 30 items that measures impulsiveness (Stanford et al., 2009) which was originally created in the 1990s by Dr. Barratt and International Society for Research on Impulsivity. It has six first-order factors (attention, motor, self-control, cognitive complexity, perseverance, and cognitive instability impulsiveness) and three second-order factors (attentional impulsiveness [AI], motor impulsiveness [MI], and non-planning impulsiveness [NI]). Each item was responded on a 4-point Likert scale of 1 = Rarely/Never to 4 = Almost Always/Always. Total scores of this scale can range in 30-120 and higher scores indicated higher levels of impulsivity. The measure was translated in Urdu for this study, and its internal consistency was high moderately (Cronbach's α = .71 to .83) within an acceptable range (Patton, Stanford, & Barratt, 1995).

Aggression Questionnaire (AQ). Developed by Buss and Perry (1992), AQ has 29 items and is divided further in four subscales that measure physical aggression (PA, 9 items, item 7 reversed scored), verbal aggression (VA, 5 items), anger (A, 7 items, item 4 reversed scored), and hostility (H, 8 items). Each item was measured on 5-point rating scale that ranges from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). High composite subscale scores expressed higher PA, VA, A and H. The test-retest correlations for PA (r = .80), VA (r = .76), A (r = .72) and H (r = .72); and for the total scale, r = .80 (Buss & Perry, 1992). The Urdu version of AQ was translated and adapted by Iftikhar and Malik (2014) and test-retest correlations for PA (r = .80), VA (r = .79), A (r = .77) and H (r = .82); and for the total scale, r = .93 (Iftikhar & Malik, 2014).

Procedure

We used a cross sectional design and correlated dark triad personality traits, aggression and impulsivity in school children. Sample of study was attained from various schools both private and government. Initially, for data collection concerned authorities of government and private schools were sought for permission. Second, parental consent was solicited, followed by participants signing consent forms. Participants were informed that they had the right to withdraw from the study without penalty whenever they wanted; and researcher assured

them that their results would anonymous and confidential. Researcher described all the participants about significance of this research and briefly introduced the study. Urdu versions of D3-Short, BIS-11 and AQ along with demographic information sheets were handed down to the participants to complete. Participants took 30-40 minutes to complete the questionnaires and were grateful for their participation in the study. Questions posed by participants before, during or after the completion of the questionnaires were answered.

Results

The results revealed significant positive relationship among dark triad personality traits, impulsivity ($r = .61$, $p < .001$) and aggression ($r = .56$, $p < .001$) see Table 1. Similarly, dark triad personality traits M, P and N had positive and significant relationships with AI, MI and NI and A, H, PA and VA for details see Table 1. The coefficients of these associations were less strong than coefficients of composite scores of scales, largely because subscales had fewer items than the complete scales. These results confirmed our first hypothesis, i.e., dark triad traits positively associated with impulsivity and aggression in adolescents; and accounted for large variance in the outcome variables (see Table 2).

Table 1

Correlations among Scales and Subscales (N=400)

Scale/Subscale	G	D3-Short	M	N	P	BIS-11	AI	MI	NI	AQ	A	H	PA	VA
G	-	.37*	.30*	.21*	.33*	.44*	.39*	.42*	.30*	.35*	.27*	.24*	.36*	.30*
D3-Short	-	-	.75*	.68*	.87*	.61*	.38*	.52*	.59*	.56*	.52*	.56*	.33*	.44*
M	-	-	-	.16*	.55*	.52*	.23*	.44*	.56*	.36*	.41*	.35*	.16*	.28*
N	-	-	-	-	.44*	.36*	.33*	.30*	.27*	.39*	.28*	.42*	.20*	.39*
P	-	-	-	-	-	.52*	.31*	.46*	.51*	.54*	.51*	.52*	.38*	.35*
BIS-11	-	-	-	-	-	-	.78*	.91*	.82*	.66*	.47*	.55*	.51*	.67*
AI	-	-	-	-	-	-	-	.65*	.41*	.63*	.36*	.54*	.53*	.66*
MI	-	-	-	-	-	-	-	-	63*	.57*	.39*	.47*	.46*	.60*
NI	-	-	-	-	-	-	-	-	-	.49*	.41*	.39*	.35*	.48*
AQ	-	-	-	-	-	-	-	-	-	-	.84*	.86*	.81*	.77*
A	-	-	-	-	-	-	-	-	-	-	-	.68*	.60*	.51*
H	-	-	-	-	-	-	-	-	-	-	-	-	.54*	.58*
PA	-	-	-	-	-	-	-	-	-	-	-	-	-	.52*
VA	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note. G = Gender, D3-Short = Dark Triad of Personality, M = Machiavellianism, N = Narcissism, P = Psychopathy, BIS-11 = Barratt Impulsiveness Scale, AI = Attentional Impulsiveness, MI = Motor Impulsiveness, NI = Non-planning Impulsiveness, AQ = Aggression Questionnaire, A = Aggression, H = Hostility, PA = Physical Aggression, VA = Verbal Aggression

*$p < .001$

Table 2 demonstrates the presence of significant gender differences in the dark triad personality traits, aggression and impulsivity and their subscales. Boys in all these measures with large effect sizes (Cohen's d range = .50-.98) scored higher than girls, supporting our second hypothesis.

Table 2

Independent sample t-test for determining the difference between Men and Women in D3-Short), BIS-11, and AQ and their Subscales (N=400)

	Girl	Boy			95% CI		
Scale/Subscale	*M(SD)*	*M(SD)*	*t*	*p*	*LL*	*UL*	*d*
D3 short	9.5(.95)	10.32(1.04)	-7.97	.001	-.99	-.60	.82
M	3.23(.48)	3.51(.40)	-6.37	.001	-.37	-.19	.63
N	3.87(.51)	4.06(.31)	-4.36	.001	-.26	-.10	.46
P	2.42(.37)	2.74(.53)	-7.13	.001	-.41	-.23	.71
BIS-11	78.94(7.06)	87.35(9.86)	-9.80	.001	-10.09	-6.72	.62
AI	23.02(2.68)	25.64(3.32)	-8.68	.001	-3.21	-2.02	.87
MI	29.96(3.28)	33.36(3.98)	-9.32	.001	-4.11	-2.68	.98
NI	29.07(3.78)	31.68(4.29)	-6.47	.001	-3.40	-1.82	.64
AQ	96.01(10.87)	104.81(12.0)	-7.67	.001	-11.05	-6.55	.76
A	22.76(3.61)	24.73(3.27)	-5.71	.001	-2.64	-1.29	.57
H	26.95(3.93)	28.95(4.03)	-5.03	.001	-2.78	-1.22	.50
PA	27.65(3.94)	30.49(3.36)	-7.76	.001	-3.56	-2.12	.77
VA	18.64(3.09)	20.63(3.04)	-6.47	.001	-2.58	-1.38	.64

Note. D3-Short = Dark Triad of Personality, M = Machiavellianism, N = Narcissism, P = Psychopathy, BIS-11 = Barratt Impulsiveness Scale, AI = Attentional Impulsiveness, MI = Motor Impulsiveness, NI = Non-planning Impulsiveness, AQ = Aggression Questionnaire, A = Aggression, H = Hostility, PA = Physical Aggression, VA = Verbal Aggression, *d* = Cohen's *d*

Results of stepwise method of multiple regression showed that gender and dark traits are significant predictors of BS-11. Results indicated the two predictors gender and dark traits explained 44% of the variance $F(1, 399) = 96$, $p < .001$, $R^2 = .19$. The dark triad traits Machiavellianism ($\beta = .42$, $p < .001$), narcissism ($\beta = .23$, $p < .001$) and psychopathy ($\beta = .19$, $p < .001$) were found to significantly predict impulsivity, as did gender ($\beta = .44$, $p < .001$) while the other variables were held constant. Results of stepwise method of multiple regression showed that significant predictors of aggression are gender and dark traits. Results indicated the two predictors gender and dark traits explained 35% of the variance F (1, 399) = 58, $p < .001$, $R^2 = .12$. The dark triad traits narcissism ($\beta = .17$, $p < .001$) and psychopathy ($\beta = .47$, $p < .001$) were found to significantly predict aggression, as did gender ($\beta = .35$, $p < .001$) while the other variables were held constant.

Table 3

Multiple Regression (stepwise) showing Dark Triad Personality Traits and Gender as predictors for Impulsiveness and Aggression (N=400)

Variable	B	SE	*B*	R^2	ΔR^2
			BIS-11		
Step 1				.19	.19
Constant	70.53	1.35			
Gender	8.41	.85	.44*		
Step 2				.35	.35
Constant	45.00	2.80			
Gender	5.94	.80	.31*		
D3-Short					
M	.96	.09	.42*		
Step 3				.41	.40
Constant	27.31	3.98			
Gender	5.12	.78	.26*		
D3-Short					
M	.90	.09	.39*		
N	.58	.09	.23*		
Step 4				.43	.42
Constant	30.12	3.98			
Gender	4.67	.77	.24*		
D3-Short					
M	.70	.10	.30*		
N	.42	.10	.17*		
P	.42	.11	.19*		
			AQ		
Step 1				.12	.12
Constant	87.20	1.81			
Gender	8.80	1.14	.35*		
Step 2				.32	.32
Constant	62.22	2.80			
Gender	4.89	1.07	.20*		
D3-Short					
P	1.32	.12	.47*		
Step 3				.35	.34
Constant	47.68	4.60			
Gender	4.58	1.05	.18*		
D3-Short					
N	.55	.14	.17*		
P	1.11	.13	.39*		

Note. D3-Short = Dark Triad of Personality, M = Machiavellianism, N = Narcissism, P = Psychopathy, BIS-11 = Barratt Impulsiveness Scale, AQ = Aggression Questionnaire

*$p < .01$

Discussion

The study revealed significant positive relationships of dark traits with impulsivity in school children. Higher levels of M, P and N predicted impulsivity, much like previous studies in adolescents and adults (Crysel, Crosier & Webster, 2013; Jones & Paulhus, 2011; Malesza & Ostaszewski, 2016; Wackler (2021) also instituted that all constructs of dark traits are related with impulsivity.

We found that all dark traits of personality were significant predictors of impulsivity in boys and girls (see also Jones & Paulhus, 2011; Sargent, 2019). In a study with older participants (undergraduate students) Szabó & Jones (2019) showed similar results. M significantly positively associated with motor and attentional impulsiveness (but not non-planning impulsiveness). Neuroticism negatively associated with NI, but not with motor and attentional impulsiveness, but P with all dark traits. Jones and Paulhus (2011) in a previous study using regression analysis did not find any significant relationship between M and impulsivity in undergraduates (where 43% of them were East Asian) however, they did find all dark traits were significantly and positively associated with impulsivity in adults. However, these authors used a different scale of impulsivity (functional and dysfunctional subscales of Dickman's (1990) inventory). In this study they were able to compare college-going undergraduates and mature adults and found undergraduate females expressed positive significant associations among dark traits and dysfunctional impulsivity, and positively significant associations between N and functional impulsivity. Male undergraduates on the other hand expressed positive associations between M and functional impulsivity suggesting M reduced this kind of impulsivity. In the adult sample, dark traits positively predicted dysfunctional impulsivity in men and women (except N in women); and all dark traits positively predicted functional impulsivity in women but only N in men (Jones& Paulhus, 2011). Sporadic associations between dark traits and impulsivity can be based on various factors, like types of instruments used, size of the sample and homogeneity of variance in gender and age samples; nevertheless, taking all these studies into consideration we do believe dark traits do predict impulsivity.

We also found significant positive association of dark traits with aggression in school children. This aggression included physical aggression (e,g., hitting biting and threatening others etc) and verbal aggression (e.g., being argumentative, angry and hostile etc). Zhu and Jin (2021) in a metanalysis found, dark traits and aggressive behaviors were significantly positive. Muris, Meesters, and Timmermans (2013) found similar associations among adolescents (12-18 years) and Jones and Neria (2015) in adults. These latter investigators found, dark traits were positively associated *($r = .19$-$.58$, $p < .05$)* with physical, verbal, anger and hostility except N with hostility. In other adult studies, dark traits were positively associated with aggression and its various forms (Barlett, 2016; Dinić & Wertag, 2018; Knight et al., 2018). As said above, in one interesting study, Lyons et al., (2019) looked at dark traits and aggressive behavior and sexual dreams in adults and found all traits positively and significantly associated *($r = .15$-$.34$, $p < .05$)* with aggressive dreams (also with sexual dreams) P expressing the highest association.

Like many previous studies, we found boys scored significantly higher on dark traits, aggression and impulsiveness than girls. In a ten year review, Furnham, Richards, and Paulhus (2013) found dark traits were higher in men than women (also see Jonason & Davis, 2018). These gender variances in dark traits can be explained in evolutionary terms where men increase the chances of spreading their genes through physical and social mechanisms over women (Buss & Duntley, 2008). Furthermore, boys also scored higher on aggression than girls aligned with what Björkqvist (2018) found i.e., boys were more physically aggressive than girls, but both gender were equal in expressing aggression verbally. Similarly in adults, Sher et al., (2019) explored that

men tend to be more aggressive and high in impulsivity than woman. Literature terms with studies that suggest aggression with impulsivity positively relate and our results are not different; for example Brennan and Baskin-Sommers (2019) found that the people who had aggressive behavior displayed high impulsivity, specifically physical aggressive behavior which leads to hostile impulsive decisions. In a meta-analysis review, all different forms of impulsiveness were positively related to all the forms of aggression. (Bresin, 2019).

Our results showed gender as predictor of aggression and impulsiveness. According to analysis of Kamal (2016) Pakistani society's gender roles, behavior wise men had a tendency of being aggressive, controlling and dominant while on the other hand women were to be impulsive, stubborn and emotional. Moreover, generally Pakistani population had a tendency to be impulsive and aggressive when it comes to expressing their emotions (Khan, et al., 2008; Shah, et al., 2009).

Limitations and Recommendations

The researcher lament on not assessing a greater number of schools because of time and resource limitations. If we had gotten these schools our geographical spread and sample size would have increased improving generalizability of our findings. We do think future studies should be carried out with diverse ethnic backgrounds, sampling cities and rural locales and selecting groups that represent different socioeconomic strata. We also believe qualitative studies should be carried out on this topic to look at in-depth understanding of aggression and impulsivity in school children.

Conclusion

We conclude, dark traits possess mild to moderately associate with aggression and impulsiveness in school children. Our results aligned with many studies that have used school children, adolescents and adults differing in age-based samples. Along with dark traits, gender also contributes to predicting aggression and impulsiveness in these children.

The study is not diagnostic in nature but does present some semblance of prevalence of dark traits, aggression and impulsiveness in school children. This data could be used by school teachers, administrators and parents as a baseline to compare dark traits in schools befitting all stakeholders. Teachers, parents and others could be alerted about children that get higher scores on dark traits, which could be used as indicators for aggression and impulsiveness; and the possibility of identifying children who might express bossiness or bullying as a result. This could certainly contribute to developing awareness for schools and parents, and the development of anti-bully programs that would help intervene aggressiveness and impulsiveness in children.

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Availability of data and materials. The information about dataset and analyses for the present study is available from corresponding authors.

Ethics approval and consent to participate. The informed consent was taken from the study participants before administration.

Competing interest. The authors have no competing interests to declare.

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