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Exploring the Dark Side: Relationships between the Dark Triad Traits and Cluster B Personality Disorder Features

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Abstract

The present study explored relationships between the Dark Triad (Machiavellianism, narcissism, and psychopathy) and cluster B personality disorder (antisocial, borderline, histrionic, and narcissistic) features. A sample of 661 participants were recruited from a Midwestern university and Amazon Mechanical Turk. A series of t-tests were conducted to examine sex differences in the Dark Triad and cluster B personality disorders. Sex differences were found on all traits and disorders, with men significantly higher than women on Machiavellianism, psychopathy, and antisocial personality disorder, and women higher than men on borderline, histrionic, and narcissistic personality disorders. Zero-order correlations and linear regression analyses were conducted to examine the contribution of each Dark Triad trait to each personality disorder. Significant associations were found for all personality disorders, with at least one Dark Triad trait making a significant contribution to each disorder. The relevance of the present study to the workplace and politics was discussed.

Keywords: Dark triad; Psychopathy; Narcissism; Machiavellianism; Antisocial; Borderline personality disorder; Cluster B

1. Introduction

The past decade has seen a surge of research focusing on the ‘dark’ personality traits: Machiavellianism, narcissism, and psychopathy. The term ‘Dark Triad’ has been attributed to Paulhus and Williams [1], who attempted to explore the nature of this triad in a sample of 245 college students. They concluded that these traits were overlapping, yet

distinct, constructs. However, they used only a simple measure of personality traits (i.e., The Big Five) [2] and only its five major dimensions. To date, their paper has been cited over 1,200 times, and has influenced further research into a taxonomy of dark or malevolent personality types. As expected, Dark Triad traits are often positively correlated with one another, with correlations normally ranging from 0.20 to 0.60 [3]. Additionally, research consistently shows that men score higher on Dark Triad traits than women [1, 4, 5]. Although many of the Dark Triad traits are represented across different forms of psychopathology, especially cluster B personality disorders, there has been limited research examining the unique and shared associations. Conducting such research is important to furthering current understandings of the dimensional traits underlying existing personality disorder pathology and informing new personality disorder diagnostic models. The purpose of the present study was to explore relationships between the Dark Triad and the current cluster B personality disorders of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association [APA]) [6], to determine the relative contribution of the Dark Triad to these clinical constructs.

2. Cluster B Personality Disorders

Cluster B personality disorders are characterized by impulsive and erratic behavior, often with significant interpersonal disruptions [7] and are termed the dramatic, emotional, and erratic personality disorders [8]. The cluster B personality disorders currently consist of antisocial (APD), borderline (BPD), histrionic (HPD), and narcissistic (NPD). According to the *DSM-5*, people with APD are characterized by their blatant and persistent disregard for, and violation of, the rights and safety of others. Individuals with APD typically lack remorse, and are also deceitful, manipulative, and impulsive [6]. APD is most commonly diagnosed in men [6, 9, 10]. BPD is characterized by emotional and interpersonal instability, an unstable self-image, and marked impulsivity [6]. BPD is most commonly diagnosed in women [6, 8, 10]. HPD is characterized by excessive emotionality, self-dramatization, shallowness, and attention-seeking behavior [6], and is typically seen more often in women [8, 9]. Lastly, NPD is characterized by a sense of grandiosity and entitlement, lack of empathy, attention- and admiration-seeking, and exploitation for personal gain, and is typically diagnosed more often in men.

3. The Dark Triad

The term “Machiavellianism” was named after the Italian philosopher Niccolo Machiavelli, who was a political advisor to the Medici family in the 1500s [11]. The characteristics of Machiavellianism encompass the ideas presented in Machiavelli’s original text on how to be a successful and efficient ruler [12]. Individuals high on Machiavellianism tend to be cynical, do not act in accordance to moral principles, and believe that interpersonal manipulation is the key to life success [11]. Machiavellians also tend to have a looser sense of morality and are more likely to endorse or engage in unethical behavior [13]. Among the more famous quotes of Machiavelli is his sentiment that “*It is better to be feared than loved, if you cannot be both.”*

Narcissism is characterized by an inflated sense of superiority, entitlement, grandiosity, and self-worth, as well as an excessive need for admiration [14], while psychopathic individuals tend to lack remorse, lack empathy, and act in manipulative ways [15]. Psychopathic individuals are also typically highly impulsive, engage in thrill-seeking behavior, and experience minimal anxiety [1]. Psychopathy has been found to be a significantly strong predictor of

APD among men and women [16]. There is some controversy as to whether psychopathy is synonymous with APD, although there is a consensus that the terms largely overlap [17].

4. Relationship between the Dark Triad and Personality Disorders

Little research has focused on the relationship between Machiavellianism and PDs. However, due to the high inter-correlations between the Dark Triad traits, Machiavellianism should make a contribution to these disorders, though it is unclear as to what capacity. There is an issue between the relationship of trait narcissism and NPD. Paris [18] suggested a continuous relationship between narcissistic traits and NPD. Narcissistic traits may have the ability to be adaptive, but these traits are considered maladaptive and dysfunctional when they are extreme or pathological in nature, which constitutes a diagnosis of NPD. For psychopathy, some researchers have hypothesized that it is expressed in women as BPD [19-21]. In contrast, others have suggested that psychopathy may be expressed in women as HPD [9, 16].

There is some research examining one Dark Triad trait with one or two personality disorders, but previous research has failed to take into account all three constructs of the Dark Triad with several personality disorders. Doing so is important for advancing the understanding of a potential dimensional model for diagnosing personality disorders. It is possible, given the established overlap among the three Dark Triad traits, that each trait may differentially contribute to the cluster B personality disorders. The traits may also interact in unique ways or operate differently for men and women who exhibit certain personality pathology. Therefore, the purposes of this study were to examine associations between the three Dark Triad traits and each cluster B personality disorder (PD), and to develop a broader picture of how these traits interact with and contribute to each PD. Specifically, it was hypothesized that that (1) men will score higher than women on all three Dark Triad traits (Machiavellianism, narcissism, and psychopathy); (2) men will score higher than women on APD and NPD, and women will score higher than men on BPD and HPD; (3) psychopathy will make the strongest contribution to APD, BPD, and HPD (with no sex differences); and (4) narcissism will make the strongest contribution to NPD (with no sex differences).

5. Method

5.1 Participants and procedure

A total of 726 participants were initially recruited via Amazon Mechanical Turk (*N*=340) and an online research participant pool housed within the psychology department at a Midwestern university (*N*=386). The community sample (Amazon Mechanical Turk) were paid $3.00 for their participation. The college sample received extra credit in their psychology courses for their participation. Sixty-five people were omitted from the dataset for the following reasons: 16 individuals did not report their sex, one individual reported an age under 18 years old, and 48 individuals were missing responses for more than 10% of the items on at least one measure.

The final sample consisted of 661 participants (337 men, 324 women), mean age=25.26 years (*SD*=7.91 years, range=18-60 years old). The majority of participants identified as White (81%) with a median social class of middle class, median education level of "some college", and median household income of $40,000-49,999. This study was approved by the Institutional Review Board at the University of Wisconsin – Eau Claire and informed consent was obtained from all participants. After indicating informed consent, all participants were able to begin the study online

in order to complete the self-report questionnaires. The questionnaires were presented in a randomized order with the exception of the demographics form, which was always presented first.

5.2 Measures

5.2.1 Machiavellianism: The Mach-IV inventory [22] was used to assess Machiavellianism, which is a widely utilized measure of the construct [13]. This inventory consists of 20 items believed to represent the core features of Machiavellianism (cynical world view, belief in manipulative tactics, and pragmatic morality). Each item is answered on a 5-point Likert-type scale ranging from (1) *disagree strongly* to (5) *agree strongly.* Initial reliability and validity of the Mach-IV was established by Christie and Geis. Recent studies have found good split-half reliabilities based on several samples, with an average reliability coefficient of α=0.79 [23]. A mean score was computed across the 20 items to create an overall Machiavellianism score.

5.2.2 Narcissism: The Narcissistic Personality Inventory [14, 24] was used to assess narcissism. The NPI consists of 40 items assessing seven facets of narcissism (i.e., superiority, entitlement, vanity, authority, self-sufficiency, exhibitionism, exploitativeness), which were assessed on a 5-point Likert scale from (1) *disagree strongly* to (5) *agree strongly.* The NPI is most commonly used in the Dark Triad literature because it taps into the grandiosity feature of narcissism, which is most relevant to Dark Triad research [11]. Raskin and Terry [14] found the NPI to be valid and adequately represents the important characteristics of narcissism. Del Rosario et al. [25] reported a strong test-retest correlation of r=0.81. A mean composite was computed of the 40 items to create an overall narcissism score.

5.2.3 Psychopathy: The Self-Report Psychopathy-III [26] was administered to assess the personality construct of psychopathy. The SRP-III consists of 64 items assessing four facets of psychopathy (erratic lifestyle, callous affect, interpersonal manipulation, and antisocial behavior). Each item is measured on a 5-point Likert-type scale with anchors ranging from (1) *disagree strongly* to (5) *agree strongly.* The overall internal consistency of the SRP-III (Cronbach's) is α=0.81. To reduce the total number of overall items in the study, only the six items with the highest factor loadings for each facet from a confirmatory factor analysis in a study by Neal et al. [27] were used in the present study, for a total of 24 items. A mean composite was computed of the 24 items to create an overall psychopathy score.

5.2.4 Cluster B personality disorders: The cluster B scales of the Coolidge Axis II Inventory [28] were administered to assess the symptoms of the cluster B personality disorders (antisocial, borderline, histrionic, and narcissistic). A total of 124 items across the four personality disorder scales were administered. Each item was answered on a 4-point Likert-type scale ranging from (1) *strongly false* to (4) *strongly true.* Coolidge and Merwin [29] reported high internal reliabilities for each cluster B subscale, Cronbach's α ranging from 0.74 to 0.86, and they reported high test-retest reliability (one-week interval) of r=0.90. The CATI had a median concurrent validity with the 13 personality disorder scales on the Millon Clinical Multiaxial Inventory of r=0.58. *T*-scores were calculated for each of the PD scales based on CATI norms.

6. Results and Discussion

6.1 Reliability

The internal consistency of scale scores for the measures administered in this study were good to excellent. Cronbach's alpha for the SRP-III, Mach-IV, and NPI were α=0.84, 0.80, and 0.93 respectively. Cronbach's alpha for the antisocial, borderline, histrionic, and narcissistic PD scales were α=0.85, 0.83, 0.79, and 0.77 respectively.

6.2 Sex differences in the dark triad

To test the first two hypotheses, a series of independent samples *t*-tests were conducted to determine if sex differences existed in mean scores for each of the Dark Triad traits and in *T*-scores for each of the cluster B PD subscales. With regard to the three Dark Triad traits, as hypothesized, men (M=2.79, SD=0.46) scored higher than women (M=2.60, SD=0.46) on Machiavellianism (Mach-IV), $t(659)=5.33$, $p < 0.001$ (correlation coefficient of effect size [30] $r_{Y\lambda}=0.203$, medium effect size), and men (M=2.56, SD=0.53) also scored significantly higher than women (M=2.22, SD=0.51) on psychopathy (SRP-III), $t(659)=8.41$, $p < 0.001$ ($r_{Y\lambda}=0.311$, large effect size). Contrary to the hypothesis, there was no significant difference between men (M=2.99, SD=0.60) and women's means (M=2.92, SD=0.48) on narcissism (NPI), $t(659)=1.52$, $p=0.13$ ($r_{Y\lambda}$=.059, negligible effect size). The results for Machiavellianism and psychopathy are consistent with the previous literature [1, 4, 5]. These results are not surprising and undoubtedly reflect genetic predispositions and cultural influences, at least based upon current Western culture. The lack of a significant difference between men and women on trait narcissism (NPI) is somewhat surprising and will be discussed below.

6.3 Sex differences in the personality disorders

In regard to the personality disorders, as hypothesized, men (M=51.63, SD=10.15) scored higher than women (M=48.77, SD=9.71) on APD, $t(659)=3.70$, $p < 0.001$ ($r_{Y\lambda}=0.143$, small effect size). Contrary to the hypothesis, women (M=51.12, SD=8.18) scored higher than men (M=49.12, SD=9.56) on NPD, $t(659)=-2.88$, $p=0.004$ ($r_{Y\lambda}=0.112$, small effect size). Although the effect size was small for the latter finding, it was surprising given that the *DSM-5* reports 50% to 75% of those diagnosed with NPD are men. As hypothesized, women (M=52.18, SD=9.23) scored higher than men (M=48.02, SD=9.15) on BPD, $t(659)=-5.81$, $p < 0.001$ ($r_{Y\lambda}=0.221$, medium effect size). Similarly, women (M=48.82, SD=9.47) scored higher than men (M=44.19, SD=10.60) on HPD, $t(659)=-5.92$, $p < 0.001$ ($r_{Y\lambda}=0.225$, medium effect size). These results are also consistent with previous literature except for the finding that women scored higher than men on NPD. The NPD differences is inconsistent with the lack of a difference on trait narcissism (NPI). There was a strong positive correlation between trait narcissism and NPD in the present study ($r=0.55$). The face validity of the items on both scales reveals a high amount of overlap, thus, the inconsistency requires further investigation. Nonetheless, the finding may support the suggestion that Western societies are becoming increasingly narcissistic, especially among women [31], and that there may be variants of narcissism, for example vulnerable narcissism, for which gender differences are not as pronounced.

6.4 Dark triad predictors of cluster b personality disorders

To test the hypotheses with regard to the relationships between the three Dark Triad traits and the PDs, zero-order correlations were first conducted (see Table 1), followed by linear regression analyses (Table 2 and Table 3). The

linear regression analyses were conducted separately for men and women based on the empirically established sex differences in in the Dark Triad and prevalence rates of each personality disorder.

Measure	BPD	HPD	NPD	SRP	Mach-IV	NPI
APD	0.51**	0.31**	0.41**	0.71**	0.51**	0.30**
BPD	-	0.52**	0.46**	0.24**	0.24**	0.08*
HPD	-	-	0.70**	0.22**	0.06	0.52**
NPD	-	-	-	0.37**	0.34**	0.55**
SRP	-	-	-	-	0.60**	0.45**
Mach-IV	-	-	-	-	-	0.18**

Note. *p < .05, **p < .001.

Table 1: Correlations between the Dark Triad Traits and Cluster B Personality Disorders.

Personality Disorder	*R*	R^2	Adjusted R^2	*F*	*p*
Antisocial	0.69	0.47	0.47	98.84 (3, 333)	< 0.001
Borderline	0.29	0.08	0.08	10.08 (3, 333)	< 0.001
Histrionic	0.57	0.32	0.32	53.22 (3, 333)	< 0.001
Narcissistic	0.64	0.41	0.41	77.72 (3, 333)	< 0.001

Personality Disorder	Dark Triad Traits					
	Psychopathy		Machiavellianism		Narcissism	
	Standardized β	*P*	Standardized β	*p*	Standardized β	*p*
Antisocial	0.68	< 0.001	0.02	0.67	-0.01	0.80
Borderline	0.29	< 0.001	0.02	0.81	-0.02	0.75
Histrionic	0.06	0.30	-0.09	0.08	0.55	< 0.001
Narcissistic	0.03	0.65	0.19	< 0.001	0.57	< 0.001

Table 2: Linear Regression Analyses for the Dark Triad Predicting Personality Disorders among Men.

Personality Disorder	*R*	R^2	Adjusted R^2	*F*	*p*
Antisocial	0.75	0.57	0.56	138.43 (3, 320)	< 0.001
Borderline	0.46	0.21	0.20	28.20 (3, 320)	< 0.001
Histrionic	0.54	0.29	0.28	43.51 (3, 320)	< 0.001
Narcissistic	0.63	0.40	0.39	69.65 (3, 320)	< 0.001

Personality Disorder	Dark Triad Traits					
	Psychopathy		Machiavellianism		Narcissism	
	Standardized β	*P*	Standardized β	*p*	Standardized β	*p*
Antisocial	0.56	< 0.001	0.27	< 0.001	-0.03	0.45
Borderline	0.22	0.002	0.31	< 0.001	-0.09	0.10
Histrionic	0.13	0.06	0.05	0.39	0.45	< 0.001
Narcissistic	0.05	0.38	0.37	< 0.001	0.39	< 0.001

Table 3: Linear Regression Analyses for the Dark Triad Predicting Personality Disorders among Women.

With regard to the specific hypothesis that psychopathy would make the strongest contribution to APD, the zero-order correlations supported the hypothesis as psychopathy had the strongest association with APD (strong effect size). Machiavellianism was second strongest association (strong effect size), and trait narcissism was third (medium effect size). Linear regression analyses for the men revealed that psychopathy was the only significant predictor of APD. For women, both psychopathy and Machiavellianism were significant predictors, with psychopathy being the stronger predictor. The latter finding was consistent with the hypothesis, although the significant contribution of Machiavellianism was unexpected and requires further investigation.

It was hypothesized that psychopathy would make the strongest contribution to BPD, and the zero-order correlations largely supported the hypothesis, although psychopathy (weak effect size) and Machiavellianism (weak effect size) were equal predictors, and the influence of narcissism upon BPD was negligible. Linear regression analyses revealed that, for men, psychopathy was the only significant predictor of BPD, again consistent with the original hypothesis. For women, both psychopathy and Machiavellianism were significant predictors of BPD, with Machiavellianism being the stronger predictor. The latter finding of the contribution of Machiavellianism to BPD in women was unexpected, and again may reflect an increasing influence of culture upon women in Western society, and may also reflect an increasing aggressiveness we may see in women with BPD features.

The hypothesis that psychopathy would make the strongest contribution to HPD was not supported by the zero-order correlations, as narcissism emerged as having the strongest association (strong effect size), Machiavellianism was second (weak effect size), and the influence of narcissism upon HPD was negligible. Linear regression analyses for men and women revealed the same pattern, that narcissism was the only significant predictor of HPD. The latter finding is perhaps not surprising, given that both HPD and trait narcissism share an attention-getting characteristic that appears to exist regardless of one's sex. In HPD, the attention-getting behavior is often solely for the sake of getting attention. In the case of narcissism, the attention-getting behavior appears to have an underlying motivation of self-aggrandizement and power-seeking.

With regard to the hypothesis that narcissism would make the strongest contribution to NPD, the zero-order correlations support the hypothesis, with trait narcissism exhibiting a strong effect size, whereas psychopathy and Machiavellian contributed, but had medium effect sizes. Linear regression analyses for the men revealed that Machiavellianism and narcissism were both significant predictors of NPD, with narcissism being the stronger predictor. For women, Machiavellianism and narcissism were nearly equal predictors, both exhibiting strong effect sizes.

As noted earlier, psychopathy has been hypothesized to be expressed in women as BPD [19, 20, 32], while others suggest that psychopathy is expressed in women as HPD [9, 16]. The present study supported the former assertion, but Machiavellianism made a stronger contribution than psychopathy to BPD in women. The present findings did not support the latter assertion, instead finding narcissism as the strongest contributor to HPD in women.

One of the major limitations of the present study was the generalizability of the findings to a general population, as the median age of the entire sample was 22 years old, and three quarters of the sample was under the age of 30. The overall sample was also well-educated, with a strong majority reporting at least some college experience, and it was not ethnically diverse (81% White). There were also substantial differences in ages between the two sample sources (MTurk and college), such that the MTurk sample was significantly older than the college sample (30.91 years versus 19.68 years, respectively). Future studies may wish to explore these relationships across the lifespan, including individuals in later-life who are known to express PD features in modified forms, conceptualized as geriatric variants of the PDs [33]. It would be interesting to explore the extent to which Dark Triad or Dark Tetrad traits are invariant across adulthood or change with age.

Paulhus [3] has recently added the component of sadism to the Dark Triad, creating a Dark Tetrad, and the present study should be replicated with this newer component. It might also be of benefit to include all of the *DSM-5* personality disorders in future studies of the Dark Triad/Tetrad, and perhaps four personality disorders which have been eliminated over the past two *DSM* editions (i.e., sadistic and self-defeating personality disorders from *DSM-III-R* and passive-aggressive and depressive personality disorders from *DSM-IV-TR*), to fully understand personality psychopathology. Interestingly, Coolidge et al. [34], in an empirically-based personality disorder study of Adolf Hitler, Saddam Hussein, and Kim Jong-il, found a similar cluster of personality disorders for all three dictators: sadistic, paranoid, antisocial, narcissistic, schizoid, and schizotypal. Thus, it appears that future studies of the Dark Tetrad and personality disorders is fully warranted and could be of great value in studies of modern political strongmen (and strongwomen) and dictators. Further, Paulhus has noted the importance of the "detection of toxic leaders before they can wreak havoc" (p. 424), and he has urged prescreening with psychological inventories in the workplace to prevent "… inappropriate individuals from being installed in positions where they could cause serious damage." (p. 424). He also suggested future research might include measurement of both positive and negative personality traits, and we fully concur. Finally, it may be noteworthy that Paulhus mentions the economic damage that results from white-collar crimes that may be committed by those with 'dark personalities', such as Bernie Madoff, who he claimed may not qualify as a psychopath, but in Paulhus' opinion, exhibited strong Machiavellian traits in order to deceive and exploit others. In the light of current national and world politics, future research into dark personalities may not only be valuable from a clinical perspective, but imperative.

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