Searching for a Vulnerable Dark Triad: Comparing Factor 2 Psychopathy, Vulnerable Narcissism, and Borderline Personality Disorder

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ABSTRACT Paulhus and Williams (2002) identified a "Dark Triad" comprising the following related personality styles: narcissism, psychopathy, and Machiavellianism. The heterogeneity found in narcissism and psychopathy raises the possibility of a second triad made up of emotional vulnerability and dark traits (i.e., the vulnerable dark triad; VDT). Along with vulnerable narcissism and Factor 2 psychopathy, the third member of the hypothesized VDT is borderline personality disorder (BPD). Using a sample of 361 undergraduates, we examine the relations between these constructs and their relations with criterion variables, including personality, environmental etiological factors (e.g., abuse), and current functioning (e.g., psychopathology, affect). The results suggest that the VDT constructs are significantly related to one another and manifest similar nomological networks, particularly vulnerable narcissism and BPD. Although the VDT members are related to negative emotionality and antagonistic interpersonal styles, they are also related to introversion and disinhibition. Ultimately, it seems there is a "dark continuum" of pathological personality traits that differ primarily in relation to negative and positive emotionality and disinhibition.

The co-occurrence among pathological personality traits, styles, and personality disorders (PDs) has long been recognized. For example, the *Diagnostic and Statistical Manual of Mental Disorders,* 4th edition (*DSM-IV*; American Psychiatric Association, 1994) explicitly recognizes the tendencies of certain PDs to covary by grouping the 10 PDs into three clusters. In fact, the majority of individuals who receive a specific PD diagnosis are likely to meet criteria for one or

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more additional PDs (e.g., Zimmerman, Rothschild, & Chelminski, 2005). Trait theorists have suggested that this overlap is due to the presence of shared personality traits; for instance, Lynam and Widiger (2001) demonstrated that patterns of comorbidity among the PDs could be reproduced on the basis of overlap of general personality traits from the Five-Factor Model of personality (FFM).

One area that has received attention is the co-occurrence between three pathological personality styles that have been titled the "Dark Triad" (DT; Paulhus & Williams, 2002): narcissism, psychopathy, and Machiavellianism. Across multiple studies (e.g., Jonason, Li, Webster, & Schmitt, 2009; Lee & Ashton, 2005; Paulhus & Williams, 2002), the three constructs have demonstrated significant correlations: narcissism and Machiavellianism (mean $r = .23$), narcissism and psychopathy (mean $r = .39$), and Machiavellianism and psychopathy (mean $r = .51$). Several of these studies have examined the DT constructs in relation to traits from models of general personality (e.g., FFM; HEXACO) and have demonstrated that these DT constructs are significantly related to the general personality trait of low Agreeableness (e.g., Paulhus & Williams, 2002) or Honesty-Humility (Lee & Ashton, 2005). The DT members differ, however, with regard to the role of Extraversion (primarily elevated in narcissism) and Conscientiousness (lower in psychopathy and Machiavellianism; e.g., Paulhus & Williams, 2002). The "darkness" referred to in the DT is captured by their shared use of antagonistic, dishonest, and egocentric interpersonal styles (e.g., FFM Disagreeableness).

In the current study, we posit the existence of a second related triad—one that includes personality styles composed of both dark *and* emotionally vulnerable traits. That is, we believe there are personality styles that combine interpersonal antagonism (i.e., low Agreeableness) with emotional dysregulation and negative emotionality (high Neuroticism). The presence of a second triad is necessary, in part, because of the heterogeneity of conceptualizations of two of the original DT members: psychopathy and narcissism. The members of this putative vulnerable dark triad (VDT) would include (a) Factor 2 psychopathy, (b) vulnerable narcissism, and (c) borderline PD (BPD).

Heterogeneity Within Psychopathy

Most current conceptualizations of psychopathy describe two, three, or four underlying factors (Cooke & Michie, 2001; Hare, 2003). The

two-factor model, which stems from work using the Psychopathy Checklist (PCL) and its revision (PCL-R; Hare, 2003), has been the predominant model of psychopathy for the last two decades, and most self-report measures of psychopathy were built around this factor structure.[1] Factor 1 is related to the interpersonal and affective components of psychopathy (e.g., grandiosity, lying, lack of remorse or guilt), whereas Factor 2 comprises traits and behaviors indicative of "social deviance" (e.g., early behavior problems, impulsivity; Hare, 2003). Lynam and colleagues (Lynam & Derefinko, 2006; Widiger & Lynam, 1998) argued that the psychopathy factors can be understood via an examination of the basic personality traits that underlie each factor. In a recent meta-analysis by Lynam and Derefinko (2006), Factor 1 psychopathy manifested the strongest weighted effect size for Agreeableness ($r = -.46$), followed by Conscientiousness ($r = -.22$). For Factor 2, there were significant negative effect sizes for Conscientiousness ($r = -.45$), Agreeableness ($r = -.44$), and Extraversion ($r = -.12$), and a positive effect size for Neuroticism ($r = .34$).

Ultimately, the distinction between these psychopathy measures is quite relevant to studies of the DT. Studies that have used a total psychopathy score (e.g., Jonason et al., 2009; Paulhus & Williams, 2002) that combines these two psychopathy factors have reported more moderate correlations between psychopathy and Machiavellianism (mean $r = .37$) than those that focus on Factor 1 in relation to Machiavellianism (mean $r = .68$). Distinguishing between the psychopathy factors did not have as large of an effect on relations with narcissism (Factor 1 only: mean $r = .39$ vs. total psychopathy: mean $r = .37$) in the DT literature. This is not the case, however, when examining the relation between the PCL-R psychopathy factors and narcissistic PD (NPD); PCL-R Factor 1 is

1. Recent factor analyses of the PCL-R have resulted in either a three- (Cooke & Michie, 2001) or four-factor model (e.g., Hare, 2003). Both of these models divide the "old" Factor 1 into two facets (e.g., Interpersonal, Affective). The third factor (e.g., Impulsive, Irresponsible Lifestyle) in the three-factor model is made up of the traits and behaviors from the "old" Factor 2 but does not include the explicitly antisocial items. Alternatively, the four-factor model divides the old Factor 2 into two facets (e.g., Lifestyle, Antisocial), one of which includes antisocial behavior. Despite these changes, most self-report measures of psychopathy still result in a two-factor solution that is akin to the initial factor structure of the PCL and PCL-R.

usually significantly more strongly related to NPD than is PCL-R Factor 2 (Widiger, 2006). The stronger relation between Factor 1 psychopathy and Machiavellianism and NPD is most likely due to the fact that Factor 1 psychopathy is predominantly related to an antagonistic interpersonal style (i.e., Lynam & Derefinko, 2006), whereas Factor 2 psychopathy is related to an antagonistic interpersonal style as well as disinhibition and negative emotionality. This may explain why Factor 1 psychopathy is more strongly related to NPD, whereas Factor 2 psychopathy is more strongly related to borderline and antisocial PDs (e.g., Widiger, 2006).

Heterogeneity Within Narcissism

There are compelling data to suggest that narcissism/NPD is also not a homogeneous construct. Several studies (e.g., Miller & Campbell, 2008; Russ, Shedler, Bradley, & Westen, 2008; Wink, 1991) have demonstrated that there are two or more variants of narcissism. Grandiose narcissism is the variant most strongly associated with the current *DSM-IV* conceptualization and primarily reflects traits related to grandiosity, entitlement, aggression, and dominance. This form of narcissism is often measured using the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988); all five DT studies have used this measure of narcissism. Several studies have demonstrated that, from a trait perspective, grandiose narcissism is primarily composed of the agentic aspects of Extraversion (i.e., dominance) and Disagreeableness (see Miller & Campbell, 2008; Miller, Gaughan, Pryor, Kamen, & Campbell, 2009).

Vulnerable narcissism reflects a more defensive and fragile grandiosity that may serve primarily as a mask for feelings of inadequacy. From a trait perspective, vulnerable narcissism seems to be composed of high levels of Neuroticism and low levels of Agreeableness and Extraversion (e.g., Hendin & Cheek, 1997). In fact, in two samples vulnerable narcissism generated a personality profile on a measure of the FFM that was closer to an expert-rated prototype for BPD (rs = .70 and .78; Miller & Campbell, 2008) than to the expert-rated prototype for NPD (rs = .15 and .43). Vulnerable narcissism scores are also significantly related to BPD symptoms (Miller & Campbell, 2008; Pincus et al., 2009).

Borderline Personality Disorder

The third "point" in the VDT, BPD, also contains elements of both low Agreeableness and Neuroticism. BPD is a *DSM-IV* PD characterized by symptoms that include fear of abandonment, interpersonal and affective instability, impulsivity, and suicidal or self-harming behaviors.[2] From a trait perspective, expert prototypical ratings (Lynam & Widiger, 2001) as well as empirical meta-analyses (e.g., Samuel & Widiger, 2008) demonstrate that BPD can be conceived of as being made up of high levels of Neuroticism, impulsivity, and interpersonal antagonism (i.e., distrustful, noncompliant). In fact, BPD can be assessed using a composite of these FFM traits with as much success as instruments explicitly designed to assess BPD (Trull, Widiger, Lynam, & Costa, 2003). As noted above, BPD is typically substantially correlated with vulnerable narcissism and Factor 2 psychopathy. Interestingly, BPD demonstrates substantial genetic overlap with antisocial personality disorder (Kendler et al., 2008), which is significantly correlated with Factor 2 psychopathy.

A Vulnerable Dark Triad: Factor 2 Psychopathy, Vulnerable Narcissism, and BPD Similarities on the Five-Factor Model

We argue that vulnerable narcissism, Factor 2 psychopathy, and BPD are all significantly related forms of personality pathology that have received scant attention with regard to their interrelations. All three personality styles share high levels of both Neuroticism and low Agreeableness (Lynam & Derefinko, 2006; Miller & Campbell, 2008; Miller, Gaughan, & Pryor, 2008; Samuel & Widiger, 2008). The personality constructs in this proposed VDT are also related to increased psychological distress and dysfunction, such as suicidality (e.g., Miller & Campbell, 2008; Verona, Hicks, & Patrick, 2005; Wink, 1991).

Similarities on Impulsivity-Related Traits

Although these constructs appear to overlap quite substantially with regard to the FFM factors, there may be important trait differences

2. Although BPD is treated as a homogeneous construct in the *DSM-IV* and most empirical studies, there is some evidence to suggest that different subtypes exist that may split along internalizing versus externalizing dimensions (e.g., Bradley, Conklin, & Westen, 2005). In the current study, however, we treat BPD as a unitary construct to be consistent with how the construct is typically studied.

across the VDT, particularly with respect to relations to impulsivity-related traits. A recent model of impulsivity (Whiteside & Lynam, 2001) identified four traits believed to be relevant to impulsive behavior: *Urgency* (i.e., an individual's difficulty in resisting cravings and urges when in a negative affective state), *(Lack of) Perseverance* (i.e., a tendency to give up easily because of boredom, fatigue, or task difficulty), *(Lack of) Premeditation* (i.e., a tendency to fail to pause and deliberate before acting), and *Sensation Seeking* (i.e., an interest in and tendency to pursue activities that may be exciting or novel or involve some degree of risk). Lynam, Smith, Whiteside, and Cyders (2006) recently included a fifth scale titled Positive Urgency (i.e., an individual's difficulty in resisting cravings and urges when in a positive affective state). These five scales (collectively called the UPPS-P Impulsive Behavior Scale or UPPS-P; Lynam et al., 2006) provide comprehensive coverage of traits that are sometimes grouped together as part of this very broad "impulsivity" construct. With regard to impulsivity, BPD and Factor 2 psychopathy appear to manifest similar profiles (high Urgency, low Premeditation and Perseverance; Miller et al., 2008; Lynam, Miller, Miller, Bournovalova, & Lejuez, in press), which are likely to be relatively distinct from vulnerable narcissism. The construct of vulnerable narcissism is not strongly linked to disinhibited traits from a Conscientiousness perspective (i.e., Premeditation, Perseverance; e.g., Hendin & Cheek, 1997; Wink, 1991), although there may be some tendency to behave impulsively when experiencing negative affect (i.e., Urgency; Hendin & Cheek, 1997).

Similarities in Environmental Etiological Factors

Developmentally, all three forms of personality pathology are either theoretically or empirically associated with negative childhood events such as poorer parenting (less warmth and supervision; greater psychological intrusiveness) and childhood sexual, physical, or emotional abuse or neglect (e.g., Battle et al., 2004; Horton, Bleau, & Drwecki, 2006; Poythress, Skeem, & Lilienfeld, 2006). These etiological factors fit with Linehan's (1993) definition of an invalidating environment, which is thought to be central to the development of BPD. Linehan argued that invalidating environments are those in which there is a "communication of private experiences" that are "met by erratic, inappropriate, and extreme

responses," and she includes childhood abuse, particularly sexual abuse, as the "prototypical" invalidating environment (p. 49). Linehan suggests that these environments fail to teach children how to label and regulate their emotions and tolerate distress and frustration, while at the same time encouraging "extreme emotional displays" to provoke and elicit the expected response from the environment (p. 51).

Similarities in Current Functioning

All three members of the putative VDT manifest significant relations with a host of internalizing symptoms and disorders, such as anxiety and depression, as well as behavioral indicators of distress, such as suicidality (Pincus et al., 2009; Verona et al., 2005; Wink, 1991). For example, Wink found that vulnerable narcissism was substantially negatively correlated with self-reports of psychological well-being ($r = -.67$) and psychological adjustment ($r = -.33$). Whereas at least some members of the DT are negatively associated with negative affect and emotions and positively associated with self-esteem (i.e., grandiose narcissism; Miller & Campbell, 2008; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), the reverse appears to be the case for the VDT. The VDT members are associated with higher negative affect and lower self-esteem (Pincus et al., 2009; Wink, 1991; Witt & Donnellan, 2008; Zeigler-Hill & Abraham, 2006).

Both vulnerable narcissism and BPD are related to pathological adult attachment styles, such as an anxious or fearful attachment (Dickinson & Pincus, 2003; Otway & Vignoles, 2006; BPD: Mauricio, Tein, & Lopez, 2007; Meyer, Pilkonis, & Beevers, 2004). Less research exists that has examined the relations between psychopathy and specific attachment styles. Kosson, Cyterski, Steuerwald, Neumann, and Walker-Matthews (2002) found that psychopathy scores were significantly negatively related to ratings of closeness to family in a sample of adolescent males. Similarly, Frodi, Dernevik, Sepa, Philipson, and Bragesjo (2001) found that psychopathic offenders were most commonly classified as having a dismissive attachment style. Unfortunately, these relations have not been examined separately by the psychopathy factors. In a review of the extant literature, Salteris (2002) noted that individuals with antisocial personality disorder and those who commit violent crimes (vs. property

crimes) tend to manifest insecure and extremely disturbed attachments. In terms of adult attachment styles, one might hypothesize that Factor 1 psychopathy would be significantly related to a dismissive attachment style (high avoidance, low anxiety), whereas Factor 2 psychopathy might be related to a fearful attachment style (high avoidance, high anxiety), which would be consistent with BPD and vulnerable narcissism.

Finally, both Factor 2 psychopathy and BPD have been associated with a number of externalizing behaviors such as substance use/abuse, aggression, and antisocial behavior (e.g., Feske, Tarter, Kirisci, & Pilkonis, 2006; Neumann & Hare, 2008; Stuart, Moore, Gordon, Ramsey, & Kahler, 2006). Because of the small literature on vulnerable narcissism, its relations with externalizing behaviors like aggression are less clear (e.g., Pincus et al., 2009; Wink, 1991), although we would expect smaller effect sizes, in part, due to the lack of substantial deficits in constraint/disinhibition.

Current Study

We examine (a) the interrelations among self-report composites of Factor 2 psychopathy, vulnerable narcissism, and BPD; (b) their relations to self-report measures of personality; (c) parent reports of personality, (d) etiological measures, and (e) measures of current functioning. The result is a comprehensive comparison of the nomological network of the VDT. We also include two members of the original DT—grandiose narcissism and Factor 1 psychopathy—as a test of the discriminant validity of the VDT. Because of the number of correlations reported, we focus primarily on quantitative indices of the similarity of these patterns of correlations. We also examine whether the effect sizes manifested by the VDT members differ in strength.

In general, we expect statistically significant but not redundant correlations between the three constructs. All three members of this putative VDT are expected to be correlated with traits and behaviors related to emotional vulnerability (i.e., Neuroticism, difficulties with emotion regulation, psychopathology, nonsuicidal self-harm) and interpersonal Disagreeableness (e.g., immodesty, distrustfulness, manipulativeness, antisocial behavior). We expect differences, however, with regard to the role of impulsivity-related traits; specifically, we hypothesize that we will find stronger relations between

Conscientiousness and Conscientiousness-based forms of impulsivity (i.e., lack of premeditation and perseverance from the UPPS) and Factor 2 psychopathy and BPD than will be found for vulnerable narcissism. We also expect that all three VDT members will manifest similar relations with etiological variables related to poorer parenting (i.e., less warmth and supervision, greater psychological intrusiveness) and higher rates of potentially traumatic experiences (i.e., emotional, verbal, physical, and sexual abuse). In addition, we expect the VDT members to be positively related to psychopathology, emotion dysregulation, and negative affect, and negatively related to positive affect and self-esteem. We also expect all three constructs to be related to more pathological adult attachment styles (i.e., anxious and avoidant). Finally, the relations between the VDT and externalizing behaviors are more difficult to predict; we expect significant relations between secondary psychopathy and BPD and behaviors such as crime, gambling, substance use, nonsuicidal self-harm, and intimate partner violence. We expect vulnerable narcissism to be similarly related to externalizing constructs, albeit to a lesser degree given expected differences with regard to impulse control.

In order to demonstrate discriminant validity of the VDT, we also compare two of the original DT members to these criterion variables: grandiose narcissism and Factor 1 psychopathy. We expect that grandiose narcissism will demonstrate a substantially different personality profile from the VDT, such that grandiose narcissism will be negatively correlated with Neuroticism and internalizing forms of psychopathology (i.e., anxiety, depression, distress), will be positively related to self-esteem and Extraversion, and will manifest null or limited relations with parenting practices (Horton et al., 2006; Miller & Campbell, 2008). Grandiose narcissism will be similar to the VDT primarily with regard to a shared relation with low Agreeableness and a predisposition to externalizing behaviors. Alternatively, we expect that Factor 1 psychopathy will manifest a personality profile that falls between the VDT and grandiose narcissism, as it will most likely manifest substantial negative correlations with Agreeableness and Conscientiousness but a null correlation with Neuroticism (not positive like the members of the VDT, but not negative like grandiose narcissism). Similarly, Factor 1 psychopathy should demonstrate positive but weaker correlations (than Factor 2 psychopathy and BPD) with measures of psychopathology and

impulsivity (all members of the VDT), and null correlations with harmful environmental events.

METHODS

Participants

Participants were 361 students (225 women and 135 men; 1 unknown); 315 participants were White, 16 were Black, 15 were Asian, and 9 were of Hispanic ethnicity. The remaining 6 chose "other" for their racial/ethnic status.

Mean age was 19.1 ($SD = 1.7$). Participants received research credit for their participation. Written informed consent was obtained from each participant. IRB approval was obtained for all aspects of this study.

Materials

Measures of Vulnerable Dark Triad and Original Dark Triad Variables Factor 1 and 2 Psychopathy

Levenson's Self-Report Psychopathy Scale (LSRP). The LSRP (Levenson, Kiehl, & Fitzpatrick, 1995) is a 26-item self-report inventory designed to measure psychopathy.[3] The LSRP Primary and Secondary Psychopathy scales typically manifest adequate internal consistency and manifest moderate correlations with other self-report measures of psychopathy (Gaughan, Miller, Pryor, & Lynam, 2009).

Self-Report Psychopathy Scale-III (SRP-III). The SRP-III (Williams, Paulhus, & Hare, 2007) is a 64-item self-report measure of psychopathy that includes four subscales. Interpersonal Manipulation (SRP-IPM) and Callous Affect (SRP-CA) are typically considered part of Factor 1 psychopathy, whereas Erratic Lifestyle (SRP-ELS) and Antisocial Behaviors (SRP-ASB) are considered part of Factor 2 psychopathy. The SRP manifests adequate internal consistency and is significantly related to other measures of psychopathy (e.g., Gaughan et al., 2009).

Grandiose Narcissism

Narcissistic Personality Inventory (NPI). The NPI (Raskin & Terry, 1988), is a 40-item self-report assessment of trait narcissism. The NPI

3. Coefficient alphas for the triad constructs are presented in Table 1.

total score manifests good internal consistency and significant correlations with expert ratings of NPD (Miller & Campbell, 2008).

Vulnerable Narcissism

Hypersensitive Narcissism Scale (HSNS). The HSNS (Hendin & Cheek, 1997) is a 10-item self-report measure that reflects hypersensitivity, vulnerability, and entitlement. Previous research suggests that the HSNS manifests adequate internal consistency and is correlated with measures of covert narcissism, Neuroticism, and Disagreeableness (Hendin & Cheek, 1997).

Pathological Narcissism Inventory (PNI). The PNI (Pincus et al., 2009) is a 52-item self-report measure of traits related to vulnerable and grandiose narcissism. In the current study, we used the four scales identified as being related to vulnerable narcissism: Contingent Self-Esteem, Hiding the Self, Devaluing, and Entitlement Rage. The vulnerable scales manifest good internal consistency and are correlated with other measures of vulnerable narcissism (Pincus et al., 2009).

Borderline Personality Disorder

PDQ – 4+. The PDQ – 4+(Hyler, 1994) is a 99-item self-report measure of *DSM-IV* PDs. In the current study, we use the BPD scale, which uses nine items to create a BPD symptom count. The PDQ – 4+BPD score manifests modest to adequate internal consistency and significant correlations with interview and self-report ratings of BPD (e.g., Gardner & Qualter, 2009).

Structured Clinical Interview for DSM-IV Personality Disorders–Personality Questionnaire (SCID-II-PQ). The SCID-II-PQ (First, Gibbon, Spitzer, Williams, & Benjamin, 1997) is a 119-item self-report questionnaire designed to assess the diagnostic criteria for the *DSM-IV* PDs. This scale has been widely used in personality disorder research (Bagby, Vachon, Bulmash, & Quilty, 2008).

McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD). The MSI-BPD (Zanarini et al., 2003) is a 10-item self-report measure of DSM-IV BPD, which manifests adequate internal consistency and significant correlations with self-report measures and interview ratings of BPD (Gardner & Qualter, 2009).

Personality Measures

Revised NEO Personality Inventory (NEO PI-R). The NEO PI-R (Costa & McCrae, 1992) is a 240-item self-report measure of the FFM, which includes the domains of Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness. Alphas for the domains ranged from .87 to .92 and .48 to .81 ($Mdn = .73$) for the facets.

UPPS-P Impulsive Behavior Scale (UPPS-P). The UPPS-P (Lynam et al., 2006) is a 59-item self-report measure of impulsivity-related traits. The Negative and Positive Urgency scales assess difficulties in resisting cravings and urges when in a negative or positive affective state. (Lack of) Perseverance measures a tendency to give up easily because of boredom, fatigue, or frustration. (Lack of) Premeditation assesses a tendency to fail to pause and deliberate before acting. Sensation Seeking measures a tendency to pursue activities that may be exciting or novel or involve risk. Alphas ranged from .84 to .93. The UPPS traits have manifested divergent relations with a number of constructs such as BPD (Whiteside, Lynam, Miller, & Reynolds, 2005).

Etiological Measures

Psychological Control Scale (PCS). The PCS (Barber, 1996) is a 16-item self-report measure of the level of psychological control asserted by one's mother and father. In the current study, participants were asked about their parents' parenting when they were a senior in high school. The mean of the ratings for the mother ($\alpha = .82$) and father ($\alpha = .83$) was used if ratings for both were provided; otherwise, just the single rating was used. The PCS manifests good internal consistency and is related to constructs such as NPD (Miller & Campbell, 2008).

Parenting Warmth and Monitoring Scale. This 24-item self-report scale (Lamborn, Mounts, Steinberg, & Dornbusch, 1991) measures the degree of warmth and parental supervision given to children. In the current study, questions pertaining to parental monitoring were asked for the time frame of 12th grade (warmth: $\alpha = .82$; monitoring: $\alpha = .80$). This scale has been used before in the study of narcissism and NPD (Miller & Campbell, 2008).

Child Abuse and Trauma Scale (CATS). The CATS (Sanders & Giolas, 1991) is a 38-item self-report measure of physical, verbal, emotional, and sexual abuse. In the current study, we used revised scales on the basis of analyses presented by Poythress et al. (2006). Four items were used to assess physical abuse ($\alpha = .71$), three items were used for verbal abuse ($\alpha = .77$),

three items were used for sexual abuse ($\alpha = .86$), and four items were used for emotional abuse ($\alpha = .82$). All variables were log-transformed prior to use in order to reduce problems with non-normality. Previous studies have demonstrated links between the CATS subscales and the antisocial factor of psychopathy and dissociation (Poythress et al., 2006).

Current Functioning Measures

Brief Symptom Inventory (BSI). The BSI (Derogatis & Melisaratos, 1983) is a 53-item measure of psychological symptoms experienced during the past week that includes specific symptom scales and a global severity index (GSI). Here we report only on the GSI ($\alpha = .96$) and five subscales: anxiety (six items; $\alpha = .76$), depression (six items; $\alpha = .90$), hostility (five items; $\alpha = .80$), interpersonal sensitivity (four items; $\alpha = .84$), and paranoid ideation (five items; $\alpha = .67$). The BSI has been used to study the relations between these symptoms and an array of constructs (e.g., depression; Stukenberg, Dura, & Kiecolt-Glaser, 1990).

Positive and Negative Affect Schedule-Expanded Form (PANAS-X). The PANAS-X (Watson & Clark, 1994) is a 60-item self-report measure of affect. In the current study, we report on the factors of positive affect (10 items; $\alpha = .87$) and negative affect (10 items; $\alpha = .83$). The PANAS-X subscales manifest good to excellent internal consistency and convergent validity with other self-report ratings of affect (see Watson & Clark, 1994, for a review).

Difficulties in Emotion Regulation Scale (DERS). The DERS (Gratz & Roemer, 2004) is a 36-item self-report measure of problems with emotion regulation; in the current study, only the total score is used ($\alpha = .93$). The DERS manifests good internal consistency and has manifested relations with a number of psychological constructs, such as BPD (Bornovalova et al., 2008).

Rosenberg Self-Esteem Scale (RSES). The RSES (Rosenberg, 1965) is a 10-item global measure of self-esteem ($\alpha = .89$). The RSES is the most widely used self-report measure of self-esteem and has demonstrated excellent internal consistency and convergent validity with other measures of self-esteem (see Blascovich & Tomaka, 1991, for a review).

Experiences in Close Relationships-Revised (ECR-R). The ECR-R (Fraley, Waller, & Brennan, 2000) is a 36-item self-report measure of two adult attachment styles: avoidance (18 items; $\alpha = .93$) and anxiety (18 items; $\alpha = .93$). The ECR-R subscales manifest good internal consistency and structural validity, as well as convergent and divergent

validity with expected constructs (e.g., worry, avoidance of touch; Fairchild & Finney, 2006).

Crime and Analogous Behavior scale (CAB). The CAB (Miller & Lynam, 2003) is a self-report inventory that assesses a variety of externalizing behaviors, including substance use, antisocial behavior, gambling, and intimate partner violence. An *alcohol use* variable was computed by taking the mean of five standardized variables (e.g., use of alcohol, age of first use, current pattern of use, ever binge drinking, number of binge drinking episodes during the past month). A lifetime *substance use* variety count was created by giving participants a 1 for every substance they endorsed using (five items; e.g., marijuana). A lifetime *antisocial behavior* count was created by giving participants a 1 for every relevant act they endorsed (nine items; e.g., stealing). A lifetime *gambling* (GAMB) count was created by giving participants a 1 for every relevant act they endorsed (six items; e.g., played card or other games for money). A lifetime *intimate partner violence* (IPV) count was created using this same approach (six items; e.g., slapped my partner). The antisocial and IPV variables were log-transformed to reduce problems with non-normality. In previous studies, the CAB scales have demonstrated significant relations with expected constructs (e.g., psychopathy; Miller & Lynam, 2003).

Deliberate Self-Harm Questionnaire-Short Form (DSHQ-SF). The DSHQ-SF (Klonsky & Olino, 2008) asks about the lifetime occurrence of nonsuicidal self-harming behaviors (e.g., cutting). We used a count of the variety of different forms of nonsuicidal self-injuring behaviors that were reported (lifetime). In a previous study, this measure manifested reasonable test-retest stability and a positive correlation with BPD (Klonsky & Olino, 2008). The nonsuicidal self-harm count was log-transformed prior to use due to problems with skewness and kurtosis.

Informant Reports

One packet was sent to the home of all the participants' parents, and the parents were asked to complete a single packet of questionnaires. The parent(s) completed an informant version of the NEO Five-Factor Inventory (Costa & McCrae, 1992), which uses 60 items to assess the five broad domains. Alphas for the informant-reported FFM domains ranged from .63 (Openness) to .90 (Conscientiousness). We compared the participants for whom we received informant reports ($n = 143$) with those we did not on demographic variables, the VDT constructs, and the parenting and abuse variables to determine whether the groups were different in any meaningful way. Of the variables examined, only two differences were found. Parents

who completed the packets were rated as warmer and less emotionally abusive by their children, ts(354) = 2.59 or greater, $p \leq .01$. These were modest effects (ds = .29 and .27, respectively).

Data Analysis Plan

In order to control for Type 1 error, we lowered our alpha for all tests to $p < .001$.[4] We first examined the bivariate relations between the VDT, grandiose narcissism, and Factor 1 psychopathy in relation to general traits from the FFM (via self-reports and informant reports), impulsivity-related traits (via the UPPS), etiological constructs (e.g., parenting), and criterion measures (e.g., psychopathology, affect, self-esteem, and externalizing behaviors). We also conducted simultaneous regression analyses to test how much variance is accounted for by the personality traits (FFM; impulsivity-related traits) in the triad constructs. In order to compare the nomological networks of the five primary constructs (i.e., VDT vs. grandiose narcissism and Factor 1 psychopathy) in a quantitative manner, we primarily focused on the pattern of correlations with relevant criterion. We did this by calculating similarity scores using intraclass correlations via double-entry q correlations (see McCrae, 2008, for a review) between the columns of correlations (e.g., correlations between BPD and 30 facets of the FFM vs. correlations between Factor 2 psychopathy and 30 facets of the FFM). We also focused on the differences between the correlations between each of the VDT members and the criterion variables, which were tested using tests of dependent rs.

RESULTS

Forming Vulnerable Dark Triad Composites

Before creating the three VDT composites, we examined the convergent and divergent relations among the scales being used to assess the VDT constructs (see Table 1). The median convergent

4. We used a less stringent p value for the similarity analyses because they are underpowered since they do not use the sample size to generate degrees of freedom. Instead, the degrees of freedom equal 2 times the number of variables included in "profile." For example, the degrees of freedom for the similarity analyses using the NEO PI-R facets (30) is only 60. As such, we used a p value of $p < .01$ for all similarity analyses.

Table 1
Correlations Among Measures of the VDT and Grandiose Narcissism

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Vulnerable Dark Triad															
Vulnerable Narcissism															
1. PNI-Contingent Self-Eesteem	**.93**														
2. PNI-Hiding the Self	.41*	**.78**													
3. PNI-Devaluing	.47*	.36*	**.87**												
4. PNI-Entitlement Rage	.55*	.29*	.58*	**.88**											
5. HSNS	.55*	.34*	.46*	.53*	**.67**										
Factor 2 Psychopathy															
6. LSRP Secondary	.29*	.16	.31*	.37*	.30*	**.68**									
7. SRP-III ELS	.08	.14	.12	.17	.09	.62*	**.81**								
8. SRP-III ASB	.05	.02	.18*	.13	.11	.35*	.48*	**.78**							
Borderline PD															
9. McLean BPD	.39*	.31*	.34*	.32*	.39*	.43*	.33*	.25*	**.81**						
10. SCID-II-P-Q BPD	.47*	.28*	.37*	.38*	.37*	.45*	.34*	.25*	.71*	**.73**					
11. PDQ − 4+BPD	.48*	.30*	.38*	.35*	.43*	.43*	.32*	.30*	.71*	.65*	**.52**				
Dark Triad															
Grandiose Narcissism															
12. NPI	− .09	− .07	.10	.17	.02	.16	.34*	.23*	.01	.02	− .04	**.86**			
Factor 1 Psychopathy															
13. LSRP Primary	.17	.11	.29*	.37*	.24*	.47*	.47*	.51*	.15	.22*	.23*	.43*	**.86**		
14. SRP-III IPM	.15	.19*	.29*	.33*	.23*	.48*	.60*	.46*	.30*	.31*	.29*	.50*	.67*	**.86**	
15. SRP-III CA	.02	.16	.15	.21*	.14	.42*	.54*	.45*	.15	.16	.18*	.39*	.65*	.70*	**.80**

Note. Running along the diagonals are the coefficient alphas for each scale. The highlighted books refer to the convergent validity correlations for each of the three VDT subscales.
*$p < .001$.

correlation among the five vulnerable narcissism scales was .47, whereas the median divergent correlation for vulnerable narcissism with the scales from the other two VDT constructs was .31. The median correlation between the three Factor 2 psychopathy scales was .48, whereas the median divergent correlation with the other VDT scales was .25. The median convergent correlation between the three BPD scales was .71, whereas the median divergent correlation was .36. As a reference, grandiose narcissism, which was measured with a single scale, manifested the lowest median divergent correlation, $r = .02$, as expected. The median correlation for the Factor 1 psychopathy scales was .67, whereas the median divergent correlation was .29. To create the four composite scores (VDT; Factor 1 psychopathy), all relevant scales were *z*-scored and averaged. As can be seen in Figure 1 (part A), the vulnerable narcissism composite was significantly related to BPD and secondary psychopathy composites, *r*s = .56 and .28, respectively. The BPD and Factor 2 psychopathy composites were also significantly correlated, $r = .48$. Grandiose narcissism manifested null effects with the vulnerable narcissism ($r = .03$) and BPD composites ($r = .00$), and a moderate significant correlation with the Factor 2 psychopathy composite ($r = .30$); grandiose narcissism also manifested a significant correlation with Factor 1 psychopathy ($r = .50$). Factor 1 psychopathy manifested significant correlations with all three VDT constructs: Factor 2 psychopathy ($r = .68$), vulnerable narcissism ($r = .31$), and BPD ($r = .28$).

Gender Differences

We next examined whether men and women manifested mean differences on the VDT constructs. There were no statistically significant differences for vulnerable narcissism ($t(358) = -.47$, *ns*; $d = -.05$) or BPD ($t(358) = -.68$, *ns*; $d = -.07$); there was a significant difference for Factor 2 psychopathy such that men scored significantly higher ($t(358) = 7.27$, $p < .001$; $d = .80$). Men also scored higher on grandiose narcissism ($t(358) = 4.83$, $p < .001$; $d = .52$) and Factor 1 psychopathy ($t(358) = 11.18$, $p < .001$; $d = 1.22$).[5]

5. We also examined whether the relations between the personality constructs (i.e., BPD) and the criterion variables were moderated by gender. Of all the correlations examined, less than 1% was significantly different. As a result, the combined sample is used in all analyses.

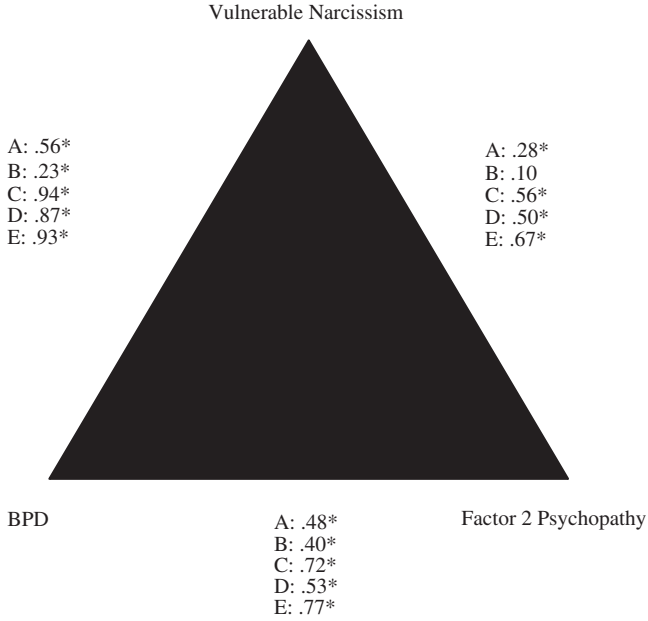

Figure 1

Assessing the similarity of the Vulnerable Dark Triad constructs.
A: Bivariate relations between VDT constructs
B: Partial correlations between VDT constructs, controlling for Neuroticism and Agreeableness
C: Similarity scores of VDT FFM personality profiles
D: Similarity scores of VDT criterion profiles
E: Similarity scores for all 65 correlates (NEO PI-R, UPPS, etiology and criterion measures)

The Vulnerable Dark Triad and Basic Personality: Five-Factor Model

We next compared the VDT composites with the five domains and 30 facets from the NEO PI-R, a measure of the FFM (see Table 2). In addition, the relations between the self-reported triad scores and parent reports of the five major domains were examined (listed in parentheses in Table 2). The mean effect sizes for the VDT and the five major domains were as follows: Neuroticism = .50, Extraversion = − .25, Openness to experience = .07, Agreeableness = − .38, and Conscientiousness = − .37. There were, however, significant differences among the VDT members with certain FFM domains. Both vulnerable narcissism and BPD manifested significantly stronger

Table 2
Correlations Between VDT Composites and the Five-Factor Model

	Vulnerable Dark Triad			Dark Triad	
	Factor 2 Psychopathy	Vulnerable Narcissism	BPD	Grandiose Narcissism	Factor 1 Psychopathy
Neuroticism	.17*[a]	.60*[b]	.65*[b]	−.30*[c]	−.06[d]
	(.10)	(.32*)	(.40*)	(−.17)	(−.14)
Anxiety	−.15[a]	.37*[b]	.36*[b]	−.32[a]	−.29*[b]
Angry hostility	.30*[a]	.43*[ab]	.55*[b]	.10[c]	.28*[a]
Depression	.18[a]	.55*[b]	.59*[b]	−.33[c]	.01[d]
Self-consciousness	−.04[a]	.54*[b]	.38*[c]	−.37[d]	−.15[a]
Impulsiveness	.32*[a]	.27*[a]	.41*[a]	−.05[b]	.04[b]
Vulnerability	.15[a]	.45*[b]	.51*[b]	−.32[c]	−.13[d]
Extraversion	−.16*[a]	−.31*[a]	−.29*[a]	.33*[b]	−.21*[a]
	(−.09)	(−.23)	(−.09)	(.12)	(−.19)
Warmth	−.34*[a]	−.30*[a]	−.32*[a]	.02[b]	−.44*[a]
Gregariousness	−.05[ab]	−.24*[a]	−.21*[a]	.15[b]	−.19*[a]
Assertiveness	−.06[a]	−.27*[b]	−.17[ab]	.53*[c]	.11[d]
Activity	−.13[a]	−.15[a]	−.16[a]	.28*[b]	−.08[a]
Excitement seeking	.18[a]	−.05[b]	−.02[b]	.26*[a]	.11[ab]
Positive emotions	−.26*[a]	−.28*[a]	−.32*[a]	.14[b]	−.36*[a]
Openness	.08[a]	−.01[ab]	.13[a]	.03[ab]	−.12[b]
	(.04)	(.07)	(.15)	(.07)	(.12)
Fantasy	.12[a]	.09[ab]	.11[ab]	.01[ab]	−.04[b]
Aesthetics	.02[a]	.03[ab]	.13[a]	−.04[ab]	−.14[b]
Feelings	−.13[a]	.00[ab]	.13[b]	.06[ab]	−.30*[c]
Actions	.16[a]	−.14[b]	.03[a]	.08[ab]	.05[ab]
Ideas	.05	−.04	.01	.11	.06
Values	.08[a]	−.02[ab]	.09[ab]	−.10[ab]	−.11[b]
Agreeableness	−.48*[a]	−.31*[a]	−.34*[a]	−.49*[a]	−.71*[b]
	(−.15)	(.01)	(−.13)	(−.21)	(−.13)
Trust	−.23*[ac]	−.36*[abd]	−.42*[bd]	−.06[c]	−.39*[d]
Straightforwardness	−.46*[a]	−.21*[b]	−.28*[bc]	−.45*[ac]	−.65*[d]
Altruism	−.43*[ac]	−.22*[b]	−.27*[ab]	−.15[b]	−.52*[c]
Compliance	−.43*[a]	−.19[b]	−.29*[ab]	−.40*[ab]	−.48*[a]
Modesty	−.19*[a]	−.13[ab]	.00[b]	−.62*[c]	−.40*[d]
Tendermindedness	−.20*[a]	−.14[a]	−.10[a]	−.24*[a]	−.42*[b]
Conscientiousness	−.50*[a]	−.21*[b]	−.37*[a]	.15[c]	−.17[b]
	(−.39*)	(.00)	(−.12)	(−.06)	(−.23)
Competence	−.34*[a]	−.21*[ac]	−.33*[a]	.26*[b]	−.04[c]
Order	−.30*[a]	−.04[b]	−.13[ab]	.02[b]	−.08[b]

(Continued)

Table 2 (Cont.)

	Vulnerable Dark Triad			Dark Triad	
	Factor 2 Psychopathy	Vulnerable Narcissism	BPD	Grandiose Narcissism	Factor 1 Psychopathy
Dutifulness	−.42*[a]	−.22*[b]	−.34*[ab]	.03[c]	−.21*[b]
Achievement Striving	−.29*[a]	−.12[ac]	−.25*[ac]	.29*[b]	−.08[c]
Self-discipline	−.37*[a]	−.28*[ac]	−.41*[a]	.22*[b]	−.10[c]
Deliberation	−.57*[a]	−.09[b]	−.26*[c]	−.13[bc]	−.26*[bc]
R^2	.44*	.42*	.51*	.52*	.56*
Similarity Scores					
Grandiose Narcissism	.03	−.44*	−.32		
Factor 1 Psychopathy	.69*	.29	.34	.43*	

Note. Correlations within each row with different superscripts are significantly different at $p < .001$. Correlations within parentheses are with parental reports of FFM domains.
*$p < .001$.

relations with Neuroticism than did Factor 2 psychopathy, whereas Factor 2 psychopathy and BPD manifested significantly stronger negative relations with Conscientiousness than did vulnerable narcissism. There were no significant differences among the VDT and the other three domains. With regard to the original dark triad, grandiose narcissism manifested an FFM profile that differed from the VDT with regard to Neuroticism, Extraversion, and Conscientiousness. Factor 1 psychopathy differed from both the VDT (less) and grandiose narcissism (more) in terms of Neuroticism; it also differed from all four other triad constructs in that it manifested the strongest negative correlation with Agreeableness. Factor 1 psychopathy manifested a relation with Extraversion that was more similar to the VDT than grandiose narcissism. In terms of Conscientiousness, Factor 1 psychopathy differed from two of the three VDT members (in manifesting a less negative relation) and grandiose narcissism. Overall, the FFM domains accounted for between 42% and 55% of the VDT and DT constructs.

To quantify the similarity between the personality profiles and the VDT, similarity scores were computed using the 30 facets of the NEO PI-R (see Figure 1, part C). All three FFM profiles were significantly related. Vulnerable narcissism and BPD manifested almost identical FFM profiles, $r_{icc} = .94$, followed by BPD and Factor

2 psychopathy, $r_{icc} = .72$. The least similar FFM profiles were generated by vulnerable narcissism and Factor 2 psychopathy, $r_{icc} = .56$. Grandiose narcissism manifested nonsignificant or significant but negative similarity scores with the VDT (see bottom of Table 2), whereas Factor 1 psychopathy manifested a significant similarity score with Factor 2 psychopathy ($r_{icc} = .69$) and positive but nonsignificant similarity scores with the other two VDT constructs. Grandiose narcissism and Factor 1 psychopathy manifested a significant but moderate-sized similarity score, $r_{icc} = .43$.

We also examined the correlations between triad members and parental reports of the FFM domains. Factor 2 psychopathy was primarily negatively related to parental reports of Conscientiousness, whereas vulnerable narcissism was primarily positively related to parental reports of Neuroticism and negatively related to Extraversion. BPD was primarily positively related to parental reports of Neuroticism. Interestingly, none of the VDT constructs were linked to parental reports of Agreeableness; grandiose narcissism, however, manifested a negative relation with parental reports of Agreeableness (i.e., $r = -.21$). Factor 1 psychopathy was negatively related to parental FFM reports of Neuroticism, Extraversion, Agreeableness, and Conscientiousness, although the correlations were small.

Finally, we tested whether the VDT members were related because of their shared vulnerable (i.e., Neuroticism) and dark (i.e., low Agreeableness) traits. Partial correlations between the VDT constructs were examined, controlling for Neuroticism and Agreeableness (see Figure 1, part B). The correlation between vulnerable narcissism and BPD was reduced by 59% after controlling for the vulnerable and dark FFM domains. Similarly, the correlation between vulnerable narcissism and Factor 2 psychopathy was reduced by 64% after controlling for these two FFM domains. Finally, the correlation between BPD and secondary psychopathy was reduced by 17% after controlling for the two FFM domains.

The Vulnerable Dark Triad and Basic Personality: Impulsivity-Related Traits (UPPS-P Model)

Next, we compared the relations between the VDT and impulsivity-related traits from the UPPS-P (see Table 3). As expected, Factor 2 psychopathy was more strongly related to all five traits than vulnerable narcissism. Unexpectedly, however, BPD was less strongly

Table 3
Correlations Between VDT Composites and Impulsivity-Related Traits

	Vulnerable Dark Triad			Dark Triad	
	Factor 2 Psychopathy	Vulnerable Narcissism	BPD	Grandiose Narcissism	Factor 1 Psychopathy
Negative urgency	.60*[a]	.41*[b]	.57*[a]	.09[c]	.34*[b]
Positive urgency	.59*[a]	.26*[bc]	.35*[bc]	.24*[b]	.42*[c]
Sensation seeking	.33*[a]	−.10[b]	−.01[bc]	.23*[ac]	.22*[a]
Lack of perseverance	.41*[a]	.15[bd]	.32*[ad]	−.16[c]	.14[d]
Lack of premeditation	.51*[a]	−.01[b]	.17[c]	.12[bc]	.19[bc]
R^2	.50*	.23*	.35*	.17*	.20*

Note. Correlations within each row with different superscripts are significantly different at $p < .001$.
*$p < .001$.

related to these traits than Factor 2 psychopathy for all traits except negative urgency and lack of perseverance. The degree to which impulsivity "explains" each of the VDT members was examined by conducting simultaneous regression analyses in which each VDT member was regressed on the five impulsivity-related traits. The five traits accounted for the most variance in Factor 2 psychopathy ($R^2 = .50$), followed by BPD ($R^2 = .35$) and vulnerable narcissism ($R^2 = .23$). As expected, grandiose narcissism manifested a divergent profile as it was related only to positive urgency and sensation seeking, and these traits explained the least amount of variance ($R^2 = .17$). Factor 1 psychopathy was related to negative and positive urgency and sensation seeking, but at more modest levels than Factor 2 psychopathy; the UPPS-P domains accounted for 20% of the variance in Factor 1 psychopathy.

The Vulnerable Dark Triad and Environmental Etiological Factors

All three members of the VDT manifested a number of significant correlations with negative environmental experiences (e.g., abuse; see Table 4). On average, BPD manifested the largest and most consistent correlations of the VDT with these negative events, and Factor 2 psychopathy manifested the smallest, with the correlations generated by vulnerable narcissism falling in between the other two VDT constructs.

Table 4
Correlations Between VDT Composites and Etiological Constructs

	Vulnerable Dark Triad			Dark Triad	
	Factor 2 Psychopathy	Vulnerable Narcissism	BPD	Grandiose Narcissism	Factor 1 Psychopathy
Etiology					
Abuse					
Sexual	.22[ab]	.19*[ab]	.32*[a]	.05[b]	.19*[ab]
Verbal	.27*[a]	.33*[ab]	.46*[b]	.00[c]	.17[ac]
Physical	.24[a]	.27*[a]	.37*[a]	−.03[b]	.17[a]
Emotional	.26*[ad]	.37*[ab]	.48*[b]	−.09[c]	.15[d]
Parenting					
Warmth	−.18[ab]	−.21*[ab]	−.31*[a]	.01[b]	−.16[ab]
Monitoring	−.41*[ac]	−.14[bc]	−.25*[abc]	−.10[b]	−.31*[c]
Psychological intrusiveness	.21*[acd]	.38*[ab]	.42*[b]	.03[cd]	.17[d]

Note. Correlations within each row with different superscripts are significantly different at $p < .001$.
*$p < .001$.

In terms of the original dark triad constructs, grandiose narcissism manifested no significant correlations with any of the abuse or parenting constructs, whereas Factor 1 psychopathy manifested a significant correlation (negative) only with parental monitoring.

The Vulnerable Dark Triad and Current Functioning: Psychopathology, Affect, Affect Regulation, Self-Esteem, Adult Attachment, and Externalizing Behaviors

The VDT manifested consistently positive correlations with psychopathological symptoms such as anxiety, depression, hostility, interpersonal sensitivity, and paranoid ideation, as well as negative affect and emotion dysregulation (see Table 5). The VDT also manifested negative correlations with positive affect and self-esteem. Finally, the VDT evinced positive correlations with both an avoidant and anxious (i.e., fearful) adult romantic attachment style. There was heterogeneity, however, with regard to effect sizes, with BPD generally manifesting the strongest relations with these constructs, followed by vulnerable narcissism and then Factor 2 psychopathy (although the differences between Factor 2 psychopathy and vulnerable narcissism were often nonsignificant). Grandiose narcissism manifested an

Table 5
Correlations Between VDT Composites and the Criterion Measures

	Vulnerable Dark Triad			Dark Triad	
	Factor 2 Psychopathy	Vulnerable Narcissism	BPD	Grandiose Narcissism	Factor 1 Psychopathy
Psychopathology					
Anxiety	.20*[a]	.40*[b]	.55*[c]	−.13[d]	.11[a]
Depression	.29*[a]	.40*[a]	.62*[b]	−.15[c]	.12[d]
Hostility	.32*[a]	.33*[a]	.52*[b]	.01[c]	.24*[a]
Interpersonal sensitivity	.15*[a]	.45*[b]	.54*[b]	−.19*[c]	.04[a]
Paranoid ideation	.28*[a]	.34*[a]	.42*[a]	.07[b]	.28*[a]
Global distress	.32*[a]	.43*[a]	.62*[b]	−.11[c]	.17[d]
Affect					
Positive	−.12[a]	−.29*[ab]	−.35*[b]	.37*[c]	.04[d]
Negative	.26*[a]	.50*[b]	.54*[b]	−.06[c]	.19*[a]
Emotion dysregulation	.38*[a]	.53*[a]	.69*[b]	−.13[c]	.22*[d]
Self-esteem	−.22*[a]	−.45*[b]	−.56*[b]	.41*[c]	.00[d]
Attachment					
Avoidance	.29*[a]	.29*[a]	.25*[a]	−.10[b]	.23*[a]
Anxiety	.24*[a]	.54*[b]	.51*[b]	−.13[c]	.17[a]
Functioning					
Crime	.60*[a]	.15[b]	.33*[cd]	.21*[bc]	.48*[d]
Alcohol use	.34*[a]	.09[b]	.25*[ab]	.18[ab]	.25*[ab]
Substance use	.45*[a]	.03[b]	.31*[ac]	.04[b]	.21*[bc]
Gambling	.34*[a]	.02[b]	.03[b]	.23*[ab]	.38*[a]
Intimate partner violence	.11[ab]	.08[a]	.27*[b]	.07[ab]	.04[a]
Nonsuicidal self-harm	.26*[a]	.18*[ac]	.44*[b]	.00[c]	.12[c]
Similarity Scores					
Grandiose Narcissism	−.55*	−.86*	−.81*		
Factor 1 Psychopathy	.67*	.14	.05	−.14	

Note. Correlations within each row with different superscripts are significantly different at $p < .001$.
*$p < .001$.

entirely different pattern as it demonstrated negative or null relations with psychopathology, negative affect, and problematic attachment styles, and positive correlations with positive affect and self-esteem. Alternatively, Factor 1 psychopathy manifested null to small positive correlations with indices of psychopathology, affect, emotional dysregulation, and the attachment styles. In general, the Factor 1 psychopathy scores were more strongly related to psychopathology and affective problems than grandiose narcissism but less strongly than most of the members of the VDT.

With regard to "darker" behaviors, the VDT was generally positively related to externalizing behaviors such as crime, alcohol and substance use, and nonsuicidal self-harm, with the exception of vulnerable narcissism, which was only related to nonsuicidal self-harm. In addition, the relations between Factor 2 psychopathy and the externalizing behaviors were stronger than those found for BPD for criminal behavior and gambling. As expected, grandiose narcissism manifested similarly positive relations with some of the externalizing behaviors (e.g., crime, gambling), although these relations were smaller than those found for Factor 2 psychopathy. Factor 1 psychopathy manifested significant and positive correlations for four of the six dark behaviors (the exceptions being intimate partner violence and nonsuicidal self-harm).

Examined together via similarity analyses (see Figure 1, part D), vulnerable narcissism and BPD again manifested the most similar relations with these criterion variables ($r_{icc} = .87$), followed by nearly equal levels of similarity between Factor 2 psychopathy and BPD ($r_{icc} = .53$) and Factor 2 psychopathy and vulnerable narcissism ($r_{icc} = .50$); all three correlations were significant. Grandiose narcissism manifested highly divergent similarity scores from the VDT constructs for these criterion measures: Factor 2 psychopathy ($r_{icc} = -.55$), vulnerable narcissism ($r_{icc} = -.86$), and BPD ($r_{icc} = -.81$). Factor 1 psychopathy manifested a convergent pattern with Factor 2 psychopathy only ($r_{icc} = .67$) and null similarity scores with vulnerable narcissism ($r_{icc} = .14$), BPD ($r_{icc} = .05$), and grandiose narcissism ($r_{icc} = -.14$).

Finally, we computed a *total* similarity score across the triad constructs taking into account all 65 individual correlations (i.e., 35 NEO PI-R scores; 5 UPPS scores; 7 etiological scores; 18 criterion scores; see Figure 1, part E). Factor 2 psychopathy manifested significant total similarity scores with the other two VDT members: vulnerable narcissism ($r_{icc} = .67$) and BPD ($r_{icc} = .77$). Factor 2 psychopathy was unrelated to grandiose narcissism ($r_{icc} = .12$) and highly significantly related to Factor 1 psychopathy ($r_{icc} = .82$). Vulnerable narcissism was almost perfectly correlated with BPD ($r_{icc} = .93$), manifested a moderate positive correlation with Factor 1 psychopathy ($r_{icc} = .51$), and manifested a negative correlation with grandiose narcissism ($r_{icc} = -.36$); all three correlations were significant. BPD also manifested a moderate positive correlation with Factor 1 psychopathy ($r_{icc} = .52$) and a negative and nonsignificant correlation with grandiose narcissism ($r_{icc} = -.29$). Finally,

grandiose narcissism and Factor 1 psychopathy manifested a moderate and significant similarity correlation ($r_{icc} = .45$).

DISCUSSION

We believe that the current evidence supports the existence of a second "dark" triad, one that is characterized by an antagonistic interpersonal style and emotional vulnerability. The members of the VDT are also lower in positive emotionality/affect and Conscientiousness. All VDT members manifested significant relations with similar etiological factors, such as retrospective reports of childhood abuse and colder, more invalidating parenting styles. The VDT was also similarly related to current levels of psychopathology and lower self-esteem. With the exception of vulnerable narcissism, the VDT constructs were related to "dark" behaviors such as antisocial behavior and substance use. Given the distress and dysregulation associated with the VDT contructs, we expected and found that all three manifested significant relations with histories of nonsuicidal self-harm.

Despite their ample similarities, the VDT constructs did differ in meaningful ways as well. Factor 2 psychopathy manifested the least similar personality profile of the VDT, as it was less strongly related to negative emotionality and psychopathology (i.e., Neuroticism; Brief Symptom Inventory) and more strongly related to impulse-control problems (i.e., Conscientiousness; UPPS-P traits) and externalizing behaviors. Factor 2 psychopathy appears to be the member of the VDT that is closest to the original DT; in fact, Factor 2 psychopathy was equally strongly related to vulnerable ($r = .28$) and grandiose ($r = .30$) narcissism and manifested a strong correlation with Factor 1 psychopathy ($r = .68$). Factor 2 psychopathy appears to be less strongly related to internalizing symptoms and traits when compared to vulnerable narcissism and BPD. The VDT members also differed in terms of the effect sizes for certain relations; for instance, BPD demonstrated the strongest and most consistent relations with the retrospective reports of environmental insults and injuries (e.g., abuse, problematic parenting), as well as current levels of psychopathology (e.g., anxiety, depression, hostility; emotion dysregulation). This is consistent with BPD's substantial comorbidity with Axis I and II disorders (Zanarini et al., 1998a, 1998b; Zimmerman et al., 2005) and treatment utilization costs (e.g., Bateman & Fonagy, 2003).

The inclusion of grandiose narcissism and Factor 1 psychopathy as representatives of the original DT allowed for an important comparison of the discriminant validity of the VDT. Interestingly, these two members of the original DT manifested substantially different patterns of relations. Grandiose narcissism differed from the VDT personality styles on almost every criterion included, such as basic personality, impulsivity, and etiological factors, and criterion constructs such as psychopathology, affect, attachment, and self-esteem. Grandiose narcissism shared only a similar tendency toward antagonistic interpersonal relations (i.e., FFM Agreeableness); even here there seems to have been some important trait differences, if examined at the specific facet level. For example, the relation between grandiose narcissism and the immodesty facet of Agreeableness was significantly larger than the relations between immodesty and the VDT constructs. Alternatively, both vulnerable narcissism and BPD manifested statistically significantly larger negative correlations with the trust facet of Agreeableness than did grandiose narcissism. The relations between vulnerable narcissism, BPD, and the trust facet from the Agreeableness domain suggest that individuals with higher scores on these two VDT constructs may manifest a hostile attribution bias such that they read malevolent intent in the actions of others (Miller, Lynam, & Jones, 2008). Hostile attribution biases are correlated with aggressive behavior in children (e.g., Dodge, Price, Bachorowski, & Newman, 1990) and adults (Miller, Lynam, & Jones, 2008) and have been linked with etiological factors such as abuse or harsh discipline (e.g., Dodge, Pettit, Bates, & Valente, 1995). Tentatively, these findings suggest that there may be different forms of disagreeableness and different pathways to such interpersonal attitudes and behaviors. Individuals who are high on grandiose narcissism may be disagreeable (e.g., immodest, aggressive) for both instrumental reasons (e.g., personal gain) and for reasons related to status and dominance, whereas the VDT, particularly vulnerable narcissism and BPD, may be related to disagreeable interpersonal behavior due to affective dysregulation and distrust of others, both of which may stem from early childhood experiences (Rogosch & Cicchetti, 2004).

Factor 1 psychopathy, unlike grandiose narcissism, manifested relations that fell in between those found for the VDT and grandiose narcissism. Factor 1 psychopathy was more strongly related to certain forms of impulsivity than grandiose narcissism but less than most of the VDT members. Similarly, Factor 1 psychopathy manifested positive (but not significant) relations with the various

etiological factors (e.g., abuse, poorer parenting), unlike grandiose narcissism, but these relations were, again, smaller than those found for some of the VDT members, primarily BPD. A similar pattern was found for Factor 1 psychopathy and the criterion variables such as psychopathology, affect, emotion dysregulation, and attachment styles. This "in-between" pattern can be traced back to Factor 1 psychopathy scores with the FFM. Like all the personality styles, Factor 1 psychopathy was significantly negatively related to Agreeableness. However, the correlation between Factor 1 psychopathy and Neuroticism was (basically) zero, putting it between the significant positive correlations found for the VDT and the significant negative correlation found for grandiose narcissism.

Combining the current findings regarding a possible vulnerable dark triad with the extant literature on the original dark triad adds to the extant literature, suggesting that there are a number of personality disorders or styles that are substantially related (e.g., Cluster B PDs). In fact, rather than finding two distinct triads, the current findings suggest the existence of a "dark continuum" of pathological personality constructs. These disorders or personality styles—Factor 1 and Factor 2 psychopathy, grandiose and vulnerable narcissism, BPD, and Machiavellianism—share a tendency toward self-centered, dishonest, and callous attitudes toward others, which often result in behaviors that fall on the externalizing continuum (e.g., Krueger, Markon, Patrick, Benning, & Kramer, 2007). The constructs may diverge, however, along other important basic traits related to negative and positive emotionality and disinhibition. For instance, BPD and vulnerable narcissism manifest the most substantial positive correlations with a host of negative emotions of both an internalizing (e.g., anxiety, depression, self-consciousness, and vulnerability to stress) and externalizing nature (angry hostility, impulsiveness), whereas Factor 1 and Factor 2 psychopathy are primarily related to acting out/externalizing variants of negative emotions (i.e., angry hostility). Finally, grandiose narcissism is largely negatively related to all forms of negative emotions. In addition, these disorders also differ with regard to notions of the self, with constructs such as grandiose narcissism related to inflated self-views, whereas the VDT constructs were negatively related to self-esteem.

Although most of the personality styles included in the VDT and the DT appear to be related but independent constructs, there is one pair that requires greater attention. Vulnerable narcissism, a construct that has received the least empirical attention of this group, manifested a

nomological network that was nearly identical to BPD's "net." The similarity scores for vulnerable narcissism and BPD across the 65 correlates was .93, suggesting nearly identical patterns of correlates between these two VDT constructs and important criterion variables. The two seem to diverge primarily on the degree of impulse control problems and environmental injury (both higher in BPD); possibly as a result of these differences, vulnerable narcissism is not as strongly linked to the externalizing behaviors often associated with BPD (e.g., substance use, aggression). The overlap between these constructs has been noted previously (e.g., Pincus et al., 2009), and some have suggested that shame and guilt play a primary role in both (e.g., Hendin & Cheek, 1997; Rusch et al., 2007). In the current study, both constructs displayed a significant relation with the trait self-consciousness, which is related to shame and embarrassment (Costa & McCrae, 1992), although vulnerable narcissism manifested a significantly stronger correlation.

Given the high degree of overlap between these two constructs, it is not entirely clear whether vulnerable narcissism warrants its own place as a fully independent PD construct (or subtype of NPD), as has been argued elsewhere (i.e., Miller & Campbell, 2008; PDM Task Force, 2006), or whether it should be seen as a part of the BPD construct. Future research is needed, ideally conducted in clinical samples, to further explore the degree of overlap found between these constructs. Research of this kind may help determine whether vulnerable narcissism and BPD should be considered related but distinct constructs or slightly different configurations of the same overall construct, with BPD representing a more distressed and impulsive variant. We should note that although the two constructs manifested substantial similarity in the pattern of correlations with the criterion variables, they were only correlated at .56 at the composite level. There are a number of possible interpretations for this discrepancy. First, this correlation may suggest that the two are less overlapping than suggested by their pattern of correlates. Second, this discrepancy may be due, in part, to measurement error; both the vulnerable narcissism and BPD composites included at least one subscale with only poor to adequate internal consistency (e.g., HSNS: $\alpha = .67$; PDQ – 4+BPD: = .52). Finally, a review of the self-report items used to measure the two suggests important differences with regard to the level of pathology assessed (e.g., SCID-II BPD item: "Do you often have temper outbursts or get so angry that you lose control?"; HSNS vulnerable narcissism

item: "I often interpret the remarks of others in a personal way"). It is possible that items related to both constructs are assessing different levels of the same latent construct. Item response theory analyses may be useful for testing this latter hypothesis.

Limitations and Conclusion

Although the current study provides promising data on the notion of VDT and a broader "dark continuum," it is not without limitations. First, the study relied primarily on self-report data generated from a predominantly White undergraduate sample. The reliance on self-report data in reference to personality pathology may be problematic because individuals with these personality styles may have limited insight (e.g., Oltmanns, Turkheimer, Krueger, & Tackett, 2006). Nonetheless, the personality profiles generated by the VDT constructs with self-reported personality traits were relatively similar to those generated by the informant reports. In fact, the informants (i.e., parents) reported a more well-adjusted profile than did the participants (i.e., parents reported that their adult children were significantly less neurotic and more agreeable and conscientious). The use of a college sample is a limitation in that the variance in some of these constructs is certainly lower than one would find in a clinical sample. We believe, however, that this type of sample is an appropriate place for testing relations between constructs even if they are inappropriate for deriving prevalence estimates. Future work would benefit from testing these relations in a psychiatric sample. We should also note that the substantial level of overlap between Factors 1 and 2 psychopathy may have been inflated because of common method variance in that these composites included items from the same self-report measures. Finally, we should note that other pathological personality constructs might show similar patterns of correlations with regard to all or some of the criterion variables, which argues in favor of a dimensional trait understanding of these disorders and their comorbidity (e.g., Lynam & Widiger, 2001).

Overall, these findings support the notion that the VDT represents a group of personality constructs that are significantly related and manifest similar personality profiles (i.e., high Neuroticism; low Agreeableness, Conscientiousness, and Extraversion) and outcomes (e.g., distress, emotional dysregulation, low self-esteem,

and externalizing behaviors) and share similar etiological factors such as multiple forms of childhood abuse and poorer parenting. The VDT constructs appear to exist on a continuum with members of the original dark triad in that both share these "darker" interpersonal traits, but they may diverge with regard to other basic traits such as Neuroticism, Conscientiousness, and Extraversion.

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