

What Lies Beneath the Dark Triad Dirty Dozen: Varied Relations with the Big Five

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ABSTRACT - The *Dirty Dozen* is a recently developed, concise measure of the Dark Triad (i.e., narcissism, psychopathy, & Machiavellianism). However, recent evidence has questioned the validity of this scale. In two studies we provide details about this measure in as much as it relates to the Big Five (i.e., Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness) whilst controlling for the shared variance amongst the three (Study 1: $N = 123$) and examining meta-traits and aspects of the Big Five (Study 2; $N = 290$). The Dirty Dozen subscales share an unstable core, which was localized to limited emotional stability, conscientiousness, and agreeableness. Each of the Dark Triad traits, however, was associated with unique aspects of the Big Five providing evidence that each trait measures something slightly different. For instance, psychopathy was linked to agreeableness through limited compassion but Machiavellianism was linked through limited politeness. In a series of factor analyses the scale is best explained by a bifactor model. Results provide multifaceted definitions of each of the aspects of the Dirty Dozen and evidence of its structural properties.

Jonason and Webster (2010) recently introduced their *Dirty Dozen* measure of the Dark Triad (i.e., narcissism, psychopathy, and Machiavellianism; Paulhus & Williams, 2002). It is a brief measure of each of the three traits composed of 4 items for each dimension. The primary problem facing this measure is its brevity like short measures in general (Burisch, 1997; Smith, McCarthy, & Anderson, 2000). Recent work suggests that although the Dirty Dozen measure of psychopathy is correlated in a similar fashion with other measures of personality as longer measures of psychopathy, the correlations are somewhat weaker (Miller et al., 2012). Despite this, the Dirty Dozen has good convergent validity with the HEXACO model of personality (Jonason & McCain, 2012), has good psychometric properties in terms of Item Response Theory (Webster & Jonason, 2013), and has been useful in theory-testing studies (Jonason & Buss, 2012; Jonason, Koenig, & Tost, 2010; Jonason, Valentine, Li, & Harbeson, 2011). However,

what is known about this scale's relations with the Big Five (i.e., Extraversion, Agreeableness, Neuroticism, Conscientiousness, and Openness) itself is rather limited for two reasons. First, Jonason and Webster (2010) failed to control for the shared variance among the Dark Triad traits and, therefore, it is unclear the degree to which each subscale taps different aspects of personality. The Dirty Dozen was designed to maximize the intercorrelations between the traits and, thus, doing so is an essential task to understand the validity of each subscale. Second, Jonason and Webster (2010) assumed one level of measurement for the Big Five but there may be meta-traits and aspects to the Big Five that can provide more detail to the validity of the Dirty Dozen scales. This study is designed to fill these gaps into what is known about the Dark Triad Dirty Dozen (DTDD).

Understanding the manner in which the DTDD relate to the Big Five traits is a useful task. By framing the DTDD aspects within the Big Five, it allows personality researchers to better understand what each aspect is measuring (John & Soto, 2007). The Big Five are such a well-studied taxonomy that they represent the common "language" of personality researchers. One can describe someone who is high on the DTDD subscales with terminology and traits that everyone else can understand. In particular, the Dark Triad traits, especially psychopathy, may be expressions of/or responses to having been slighted in the past (Lee & Ashton, 2005) and, thus should be correlated with disagreeableness. This is a core observation underlying the work that first created the cluster known as the Dark Triad (Jakobwitz & Egan, 2006; Paulhus & Williams, 2002) and it was used to validate the DTDD (Jonason & Webster, 2010). However, this might not go far enough; it is overly reliant on a single conceptualization of the Big Five personality traits. Some have argued that the Big Five are a mid-level framework of personality traits, with meta-traits above and aspects below (Chen et al., 2011; DeYoung, 2006; DeYoung, Quilty, & Peterson, 2007; see criticism by Ashton, Lee, Goldberg, & de Vries, 2009). Therefore, it seems more can be learned about the validity of the DTDD measure by correlating it with the meta-traits and aspects while replicating associations with the traditional Big Five.

At the top of the hierarchy are the meta-traits of *Stability* (i.e., Emotional Stability, Agreeableness, and Conscientiousness) and *Plasticity* (i.e., Extraversion and Openness to Experience). At the root of the Dark Triad might be a degree of instability. This might be evidenced in their protean or intentionally varied ways of influencing others (Jonason & Webster, 2012), their criminality (Hare, 1996), and aggressiveness (Jones & Paulhus, 2010). Emotional instability is an essential distinguishing feature of primary and secondary psychopathy (Lykken, 1994) and a defining feature of narcissism is that individuals who score high on narcissism have a sense of self that fluctuates considerably (Webster et al., 2007). Therefore, we predict the DTDD aspects should all be negatively correlated with the meta-trait of Stability but given the "darker" nature of psychopathy (Rauthmann, 2012), we expect this correlation to be strongest in the psychopathy aspect of the DTDD.

More detail still can be provided by examining the aspects of the Big Five in relation to the DTDD aspects. A number of aspect-level predictions seem worth making. First, given that criminality (Hare, 1996), vengefulness (Lee & Ashton, 2005), and aggressiveness (Jones & Paulhus, 2011) tend to be associated with psychopathy, we

expect scores on the psychopathy subscale of the DTDD to be correlated with emotional instability and disagreeableness through high rates of volatility and low rates of compassion. Second, given the manipulative nature of those high on Machiavellianism (Jonason & Webster, 2012), we expect scores on the Machiavellianism subscale of the DTDD to be negatively correlated with politeness in as much as social niceties may get neglected when one is trying to manipulate others. Third, given the impulsivity (Jones & Paulhus, 2011) of those high on psychopathy, we expect the psychopathy subscale of the DTDD to be negatively correlated with rates of orderliness and industriousness. Fourth, given the social nature of narcissism (Foster & Trimm, 2008), we expect the narcissism subscale of the DTDD to be positively correlated with rates of enthusiasm and assertiveness.

We also took this opportunity to replicate and extend what we know about the factor structure of the Dirty Dozen. We test 1-factor and 3-factor models, as has been done (Jonason & Webster, 2010), along with a bifactor model (Reise, Morizot, & Hays, 2007). A bifactor model might account for the data better than prior models and be a superior test of the hypothesis that the Dark Triad can be used as a 3-factor and 1-factor model of personality (Jonason et al., 2009). This model treats the shared variance among the items as reflective of a global factor like the general *g* factor in IQ research. In this model, the 12 Dirty Dozen items load on two types of latent factors: (a) the three latent factors associated with the Dirty Dozen's three subscales (i.e., Machiavellianism, psychopathy, and narcissism) and (b) a latent factor of the global Dark Triad. In bifactor models, the latent factors are left uncorrelated. Because of the bifactor nature of this model, the latent global Dark Triad factor is, in a sense, a measure of the residual Dark Triad after the variance attributable to the three subscale-based latent factors are removed. Similarly, the three subscale-based latent factors reflect their respective measures after removing the variance attributed to the latent global Dark Triad factor.

This study has one main goal: to provide incrementally more evidence about the validity of the DTDD. Study 1 examines the relationship between the DTDD aspects and the Big Five while controlling for shared variance among the Dark Triad aspects. Study 2 examines the links between the DTDD aspects and meta-traits and facets of the Big Five. We hope to provide evidence for the validity of the measure, detailing what aspects of "normal" personality they are correlated with and its structural properties through Confirmatory Factor Analyses (CFA).

Study 1: DTDD and the BFI

In this study, we replicate and extend the validity of the DTDD by reexamining the relationships to the Big Five while controlling for the shared variance among the Dark Triad traits. Doing so will provide a cleaner definitions of each aspect on the scale. That is, by controlling for the shared variance, the relationship between each of the DTDD subscales and the Big Five can be assessed without the contamination of the other two Dark Triad traits.

Method

Participants and Procedure

Participants were 123 undergraduates enrolled in social or evolutionary psychology courses at a large public university in the Southeastern U.S. (76% female) aged 18–29 years ($M = 20.35$, $SD = 1.51$). They participated in exchange for extra credit in their course in their class in the context of a larger personality project. Upon completion of the measures, the participants were thanked and debriefed.

Measures

The Dirty Dozen (Jonason & Webster, 2010) measure of the Dark Triad was used. It is composed of 12 items; 4 items per subscale. The measure has good validity (Jonason & McCain, 2012) and good psychometric properties (Jonason & Webster, 2010; Webster & Jonason, 2013). Participants were asked how much they agreed (1 = *Strongly Disagree*; 7 = *Strongly Agree*) with statements in Table 1. Corresponding items were averaged to create indexes for narcissism ($\alpha = .83$), Machiavellianism ($\alpha = .78$), and psychopathy ($\alpha = .80$) along with a composite of all 12 items ($\alpha = .82$). Machiavellianism was correlated with psychopathy ($r(122) = .47$, $p < .01$) and narcissism ($r(122) = .27$, $p < .01$) but psychopathy was not correlated with narcissism ($r = .14$).

Table 1
Dark Triad Dirty Dozen Items and
Their Respective Factors

Factor or item	
Machiavellianism	
3.	I tend to manipulate others to get my way.
9.	I have used deceit or lied to get my way.
8.	I tend to exploit others towards my own end.
10.	I have used flattery to get my way.
Psychopathy	
1.	I tend to lack remorse.
2.	I tend to be callous or insensitive.
11.	I tend to be unconcerned with the morality of my actions.
12.	I tend to be cynical.
Narcissism	
4.	I tend to want others to admire me.
5.	I tend to want others to pay attention to me.
6.	I tend to seek prestige or status.
7.	I tend to expect special favors from others.

Note. Numbers reflect order of presentation in this survey.

We measured personality traits with the 44-item Big Five Inventory (BFI-44; John & Srivastava, 1999). This measure has good validity and psychometric properties (Soto & John, 2009). Its 44 items are divided up into groups of 8–10 items per trait (i.e., Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness). All scales showed good internal consistency ($\alpha s \geq .78$; see Table 1). Participants were asked their agreement with each statement (1 = *Disagree Strongly*; 5 = *Agree Strongly*).

Results and Discussion

Table 2 contains the correlations between the DTDD aspects and the BFI scales. We found that Machiavellianism and psychopathy were associated with being disagreeable but narcissism was not. Psychopathy was associated with lower levels of conscientiousness. However, given that this scale taps a limited range of personality and the sample size may restrict our ability to make strong conclusions we conducted Study 2. Given our sample size did not exceed 200, we did not conduct the aforementioned CFAs.

Table 2
Correlations (and multiple regression coefficients) between the Dark Triad Dirty Dozen Aspects and the Big Five Inventory

Personality measure	α	Machiavellianism	Psychopathy	Narcissism	Dark Triad
Extraversion	.88	.11 (.17)	-.08 (-.17)	.12 (.10)	.08
Agreeableness	.78	-.47** (-.25**)	-.57** (-.45**)	-.14 (-.01)	-.52**
Conscientiousness	.85	-.10 (.06)	-.28** (-.30**)	-.09 (-.07)	-.20*
Neuroticism	.85	.08 (.04)	.10 (.08)	.04 (.02)	.10
Openness	.83	-.19* (-.18)	-.05 (.05)	-.15 (-.11)	-.19*

* $p < .05$, ** $p < .01$

Study 2: The DTDD and the BFAS

What more detail can be rung out of the Big Five than what we know already? If we examine the meta-trait and aspect-level associations between the DTDD and the specific aspects of the Big Five, more clarity might be gleaned. In Study 2, we further replicate and extend what we know about the convergent validity of the DTDD but now examine it the scale's structural properties too.

Method

Participants and Procedure

Participants were 290 undergraduate psychology students (59% women) aged 18-55 years ($M = 22.42$, $SD = 6.15$) from the Southeastern U.S. – a different university than in Study 1 – who received course credit for completing the surveys described below. Participants completed a Web-based survey instrument where they were informed of the nature of the study, gave their responses, and were debriefed. Fifty-two percent of the sample was European American, 14% was Hispanic American, 22% was African American, and no other group was greater than 3.1%.

Measures

The Dirty Dozen (Jonason & Webster, 2010) measure of the Dark Triad was used as it was in Study 1 but was assessed on a different scale (1 = *not at all*; 5 = *very much*). Corresponding items were averaged to create indexes for narcissism ($\alpha = .82$), Machiavellianism ($\alpha = .78$), and psychopathy ($\alpha = .71$) along with a composite of all 12 items ($\alpha = .86$); the three traits were positively intercorrelated ($r_s = .36$ to $.61$, $p_s < .01$).

The Big Five Aspect Scales (BFAS; DeYoung, Quilty, & Peterson, 2007) were measured with a 100-item measure asking participants their degree of agreement (1 = *strongly disagree*; 5 = *strongly agree*) with statements like “I seldom feel blue” and “I am not interested in other people’s problems.” The hierarchical nature of the BFAS is shown in Table 1. This scale has good validity and psychometric properties (Chen et al., 2011; DeYoung, 2006).

Table 3
Zero-order Correlations (and multiple regression coefficients) for the Dark Triad and the Big Five Aspect Scales

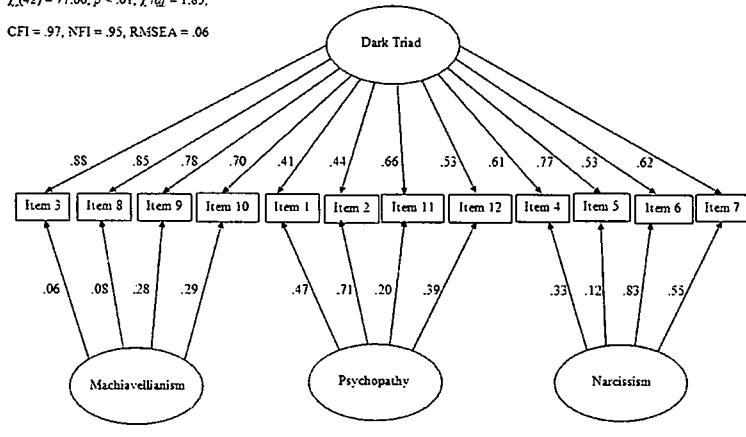
Personality measure	α	Psychopathy	Narcissism	Machiavellianism	Dark Triad
<i>Stability</i>	.75	-.33** (-.27**)	-.23** (.07)	-.26** (.04)	-.31**
Emotional stability	.86	.18** (.18*)	.16* (.16)	.10 (-.12)	.17*
Volatility	.85	.22** (.20*)	.18** (.14)	.14* (-.08)	.21**
Withdrawal	.69	.09 (.12)	.09 (.14)	.01 (-.16)	.07
Agreeableness	.83	-.36** (-.27**)	-.23** (.01)	-.32** (-.16)	-.35**
Compassion	.84	-.30** (-.36**)	-.07 (.07)	-.14* (.04)	-.19**
Politeness	.68	-.32** (-.08)	-.33** (-.06)	-.43** (-.34**)	-.42**
Conscientiousness	.84	-.21** (-.17*)	-.13* (-.00)	-.18** (-.07)	-.20**
Industriousness	.81	-.16* (-.12)	-.14* (-.07)	-.14* (-.01)	-.17*
Orderliness	.68	-.22** (-.18*)	-.09 (.07)	-.18** (-.12)	-.19**
<i>Plasticity</i>	.76	-.08 (-.15)	.08 (.16)	.00 (-.02)	.01
Extraversion	.84	-.10 (-.23**)	.15* (.23**)	.06 (.04)	.05
Enthusiasm	.80	-.24** (-.38**)	.06 (.20*)	-.03 (.06)	-.07
Assertiveness	.77	.09 (-.00)	.20** (.20*)	.14* (.00)	.17*
Intellect/Openness	.81	-.04 (-.01)	-.02 (.03)	-.05 (-.07)	-.04
Intellect	.77	-.07 (-.04)	-.05 (-.01)	.07 (-.04)	-.07
Openness	.71	.00 (.02)	.02 (-.06)	-.02 (-.08)	.00

Note. Meta-traits are italicized; Big Five traits are bolded. * $p < .05$, ** $p < .01$

Figure 1
A Bifactor Model of the Dirty Dozen Measure of the Dark Triad

$\chi^2(42) = 77.60, p < .01, \chi^2/df = 1.85$.

CFI = .97, NFI = .95, RMSEA = .06



Results and Discussion

In Table 3, we report zero-order correlations among the components of the BFAS and the DTDD. When we controlled for the shared variance using multiple regression, only psychopathy was negatively correlated with the meta-trait of stability. Second, the disagreeable core of the DTDD appears to be driven primarily by differences in psychopathy scores, mostly by the compassion aspect. Third, extraversion was correlated with narcissism through the assertiveness aspect but negatively correlated with psychopathy through the enthusiasm aspect. Fourth, Machiavellianism was inversely correlated with the politeness aspect of agreeableness.

We examined the correlations in Study 1 and 2 at the Five Factor Model level and found only one significant difference (one-tailed). The correlation between psychopathy and agreeableness was larger in Study 1 than Study 2 (Fisher's $z = -1.91, p < .05$). This suggests despite different sample sizes and different Big Five measures, the results were similar.

We ran three different CFAs. The one-dimensional model fit the data poorly ($\chi^2(54) = 327.30, p < .01, \chi^2/df = 6.06, CFI = .80, NFI = .77, RMSEA = .15, 90\% CI [.13, .17]$). The three-factor solution (nested or hierarchical three-factor models are mathematically equivalent) fit the data acceptably well ($\chi^2(51) = 199.75, p < .01, \chi^2/df = 3.92, CFI = .86, NFI = .89, RMSEA = .11, 90\% CI [.10, .13]$), which was a better fit than the one-dimensional model ($\Delta\chi^2(3) = 127.55, p < .01$). However, the bifactor model ($\chi^2(42) = 77.60, p < .01, \chi^2/df = 1.85, CFI = .97, NFI = .95, RMSEA = .06, 90\% CI [.04, .08]$) fit the data significantly better than the three-factor model ($\Delta\chi^2(9) = 122.15, p < .01$). We present the bifactor model in Figure 1 as it was the best fitting model.

General Discussion

Given the brief nature of the DTDD, one should only expect to detect the strongest of associations with measures of the Big Five and other measures of personality. Although not completely consistent across studies, combined, these studies suggest that despite its brevity the DTDD traits (1) tap a range of personality traits, (2) have unique correlates with normal personality consistent with prior research, and (3) are reasonably valid. We found that the psychopathy subscale of the DTDD was negatively correlated with agreeableness, conscientiousness, and emotional stability and each of these seem to be localized to limited compassion, limited orderliness, and a tendency towards volatility, respectively. Machiavellianism's link to agreeableness was a function of limited politeness. In both studies, the link between narcissism and agreeableness was thrown into question. In Study 1, no correlation emerged but this could be a methodological artifact or related to limited power. In Study 2, we detected this correlation, but it was only at the zero-order level, suggesting that the shared variance with the other two Dark Triad traits are responsible for this correlation.

Theoretically speaking, the Dark Triad composite provides more detail about the validity of this measure, which might not be surprising given Jonason and colleagues' tendency to argue the three traits are indicators of the same/similar underlying psychology (Jonason, Li, Webster, & Schmitt, 2009; Jonason et al., 2012). That is, the correlations with the individual traits provide the mechanisms through which this latent disposition works. Behind the Dark Triad is a sense of instability. This instability was a

function of limited emotional stability, agreeableness, and conscientiousness. Each of which was a function of volatility, limited compassion and politeness, and low rates of industriousness and orderliness. The Dark Triad composite does not link to a sense of withdrawal or the components of plasticity bearing one weak correlation with assertiveness, which was localized to the narcissism subscale. This underlying disposition may be consistent with the antagonistic and selfish life history strategy proposed to explain the existence of these traits (Jonason & Webster, 2012; Jonason et al., 2012).

We presented a bifactor model (Reise, Morizot, & Hays, 2007) of the Dirty Dozen measure of the Dark Triad. This model fit the Dirty Dozen better than a 1- or 3-dimensional model. The superiority of the bifactor model is consistent with the idea that the Dark Triad can be treated as individual, mid-level personality traits and a higher-order, life history dimension (Jonason, Koenig, & Tost, 2010; Jonason et al., 2009; Jonason et al., 2011; Jonason & Webster, 2012). Interestingly, some of the factor loadings on the actual traits were meaningfully low. It appears the variance associated with the items asking about manipulation (item 3), exploitation (item 8), and concern about morality of one's action were better accounted for by the global factor than the individual traits of the Dark Triad. This suggests that these three items are more reminiscent of the latent global Dark Triad construct and may be more central to the exploitive life history strategy some think they embody (Jonason et al., 2012). Nevertheless, more work is needed on the utility of bifactor models to understand the Dirty Dozen and the Dark Triad in general.

This study had modest aims. It was designed to provide more detail about the validity of the Dirty Dozen measure. As such, its theoretical value is limited and, thus, the brevity of this paper. Beyond replicating past associations, this study also provided detail about how the DTDD and ostensibly the Dark Triad are manifested at the meta-trait and aspect-level of personality traits. In addition, this study was reliant on college-student samples. Although, the DTDD was designed with and for such populations, future work is needed to test the measure's utility in special populations like (e.g., criminals, children). For the first time that we know of, the DTDD aspects were not all correlated with one another (Study 1). However, this study has the smallest sample using this scale that we know of. There might be an optimum number of participants needed to (1) detect these correlations and (2) best test relevant hypotheses. That is, if the measure can only return modest estimates of correlations between the Dark Triad and other variables of interest given its reduction in content breadth, then power may be a concern, necessitating sample sizes between two and five hundred (Jonason & McCain, 2012; Jonason et al. 2011; Jonason & Webster, 2012).

In a descriptive fashion, this study provided definitions of the subscales of the DTDD. It is the first time the DTDD subscales have been defined in terms of their higher-, mid-, and aspect-level associations with the Big Five. Predominantly, the scale taps into an unstable nature but is manifested in different ways for each of the DTDD aspects. Criticisms of the DTDD are emerging (Miller et al., 2012) but this study suggests that the DTDD has good convergent validity and each trait is associated with its own aspects of the personality traits associated with the Big Five.

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