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Introducing the Short Dark Triad (SD3): A Brief Measure of Dark Personality Traits

Daniel N. Jones[1] and Delroy L. Paulhus[2]

Abstract

Three socially aversive traits—Machiavellianism, narcissism, and psychopathy—have been studied as an overlapping constellation known as the Dark Triad. Here, we develop and validate the Short Dark Triad (SD3), a brief proxy measure. Four studies (total N = 1,063) examined the structure, reliability, and validity of the subscales in both community and student samples. In Studies 1 and 2, structural analyses yielded three factors with the final 27 items loading appropriately on their respective factors. Study 3 confirmed that the resulting SD3 subscales map well onto the longer standard measures. Study 4 validated the SD3 subscales against informant ratings. Together, these studies indicate that the SD3 provides efficient, reliable, and valid measures of the Dark Triad of personalities.

Keywords

subclinical, Dark Triad, psychopathy, narcissism, Machiavellianism

Despite their distinctive theoretical roots, the literatures on three socially aversive personalities—narcissism, Machiavellianism, and psychopathy—have become so expansive that the distinctions have become muddied. As a result, some observers concluded that the three variables are interchangeable in normal samples (e.g., McHoskey, Worzel, & Syzarto, 1998). Disputing that allegation, Paulhus and Williams (2002) coined the term *Dark Triad* to encourage researchers to study the three traits in tandem: Only then can their distinctiveness be clarified. If studied alone, any observed correlates may actually reflect overlap with one of the other Dark Triad members. Although research on the triad has continued to expand (for a review, see Furnham, Richards, & Paulhus, 2013), some researchers may have been deterred by the combined length of the available measures.

Consider the popular questionnaire measures of psychopathy. The widely used Self-Report Psychopathy (SRP-III) scale requires 64 items (Mahmut, Menictas, Stevenson, & Homewood, 2011; Williams, Paulhus, & Hare, 2007). Even longer is the Psychopathic Personality Inventory–Revised, which has more than 100 items (Lilienfeld & Andrews, 1996). Abbreviated versions of these two measures have been whittled down to 29 and 56 items, respectively—just to measure psychopathy. The standard measure of Machiavellianism (Mach-IV; Christie & Geis, 1970) has 20 items and the most popular measure of narcissism, the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) has 40. Also available is a validated short version, the NPI-16 (Ames, Rose, & Anderson, 2006).

Given the length of these instruments, it is understandable why some researchers may be reluctant to include all three traits in a single study. Even with the shortest versions of each construct, the total number of items is 65—still taxing when time and space are at a premium. For practical use, a valid and reliable short measure of the Dark Triad is needed. That need motivated our development of the Short Dark Triad (SD3) scale.

The Dirty Dozen

Currently, the only brief measure of the Dark Triad is the "Dirty Dozen" (DD) scale (Jonason & Webster, 2010). Unfortunately, it appears to be too short—only four items per construct. As a result, the instrument has been critiqued in several recent reports (Lee et al., 2013; Miller et al., 2012; Rauthmann, 2013).

At a minimum, short measures should line up with the gold standard measures (see Credé, Harms, Niehorster, & Gaye-Valentine, 2012; Hubley & Zumbo, 1996). To date, research on the DD indicates only a weak correspondence (Jonason & Webster, 2010). According to Miller et al. (2012), the reason may be that shortening the DD subscales required removal of some essential content.

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The DD cannot be faulted for the reliabilities of its subscales—they are all respectable. However, high reliabilities for four-item measures can only be achieved via repetitive wording of narrow content (Credé et al., 2012; John & Seto, 2007). Even more damaging is the fact that cross-correlations are often stronger than convergent correlations with the corresponding gold standard measures (Jonason & Webster, 2010; Rauthmann, 2013). Finally, the DD Mach scale showed *strong positive* correlations with measures of short-term orientation (Jonason & Tost, 2010). Unfortunately the finding that Machiavellians are impulsive is inconsistent with the original conception (Jones & Paulhus, 2009).

As far as we know, only one published report has directly compared the SD3 to the DD (Lee et al., 2013). The authors concluded that the SD3 adequately captures the nuances of each construct whereas the DD taps only limited elements. In sum, the empirical literature does not favor use of the DD. Nonetheless, as the only competitor for the SD3, the DD was included in the present research for in-depth comparisons at both the conceptual and empirical levels.

Distinct Theoretical Roots

Item generation for the SD3 began by consulting a recent review of the seminal sources for each construct (see, Jones & Paulhus, 2011b). Our assumption was that clarification of the classic conceptions would permit operationalization of the three constructs without building in redundancy or forcing independence. In sum, we sought to develop subscales that were loyal to their theoretical roots and then evaluate their empirical associations.

Machiavellianism. In introducing the concept into the personality literature, Christie and Geis (1970) were primarily influenced by the political strategist, Niccolo Machiavelli (1513/1981). As a result, the popular Mach-IV items include cynical worldview, lack of morality, and manipulativeness (see, review by Fehr, Samsom, & Paulhus, 1992). The more recent review by Jones and Paulhus (2009) also drew attention to a neglected predecessor, namely, the first-century military strategist, Sun Tzu (Shibing & Duyvendak, 1998). Along with themes similar to Machiavelli's, Sun Tzu added planning, coalition formation, and reputation building.

The latter qualities turn out to be important in distinguishing psychopathy from Machiavellianism. Whereas psychopaths act impulsively, abandon friends, and family, and pay little attention to their reputations (Hare & Neumann, 2008), Machiavellians plan ahead, build alliances, and do their best to maintain a positive reputation. When overlap is controlled, research has supported these assertions: Machiavellians are strategic rather than impulsive (Jones & Paulhus, 2011a). They avoid manipulating family members (Barber, 1998), and any other behavioral tactics that might harm their reputation, for example, feigning weakness (Shepperd & Socherman, 1997). In sum, the key elements of Machiavellianism appear to be (a) manipulativeness, (b) callous affect, and (c) a strategic-calculating orientation. This last element is often overlooked by researchers.

Psychopathy. Seminal researchers (Cleckley, 1941/1976; Hare, 1970; Lykken, 1995) have pointed to two key elements of psychopathy—deficits in affect (i.e., callousness) and self-control (i.e., impulsivity). The self-control deficit has remained central to criminal (Hare & Neumann, 2008; Hicks et al., 2007) as well as noncriminal conceptions of psychopathy (Hall & Benning, 2006; Lebreton, Binning, & Adorno, 2006). Consequently, psychopaths manifest their callousness in a short-term fashion (Jones & Paulhus, 2011a; Visser, Bay, Cook, & Myburgh, 2012). For example, they lie for immediate rewards, even if those lies compromise their long-term interests[1] (Paulhus & Jones, 2012). Thus callous manipulation combines with other short-term traits (i.e., recklessness, and thrill seeking) to engender bold and relentless criminal behavior (Hare & Neumann, 2008).

The element of impulsivity is key in distinguishing psychopathy from Machiavellianism and influenced our item selection for the SD3. Our emphasis on impulsivity renders our conception closer to secondary than to primary psychopathy (Hicks et al., 2007; Newman, McCoon, Vaughn, & Sadeh, 2005).

Narcissism. As the seminal sources for their review, Jones and Paulhus (2011b) drew on Kernberg (1975) and Kohut (1978). Both those sources argued that narcissistic behavior was marked by manipulation and callousness, much like Machiavellianism and psychopathy. Intrapsychically, however, narcissism was defined by a clash between a grandiose identity and underlying insecurity. This malignant version remains the concern for clinicians dealing with pathological cases of narcissism (see, Morey et al., 2011; Pincus et al., 2009).

The advent of the NPI (Raskin & Hall, 1979) directed the research energy toward subclinical narcissism (e.g., Emmons, 1987). When compared with other measures, the key element in the NPI appears to be grandiosity (Miller & Campbell, 2008). In two-factor solutions, one is variously labeled (self-attributed) leadership or authority, and the other entitlement (Kubarych, Deary, & Austin, 2004). Although grandiosity can certainly be maladaptive (Morf & Rhodewalt, 2001), there is little support for the role of inner insecurity as the driving force (Campbell & Foster, 2007). To reify that distinction, Pincus, Wright, and their colleagues have developed an instrument that separates grandiose from vulnerable narcissism (Pincus et al., 2009; Wright, Lukowitsky, Pincus, & Conroy, 2010).

Other than insecurity, the clinical manifestations are also evident in subclinical narcissism. For example, grandiosity

leads narcissistic individuals on a never-ending quest for ego-reinforcement (Morf & Rhodewalt, 2001), often resulting in self-destructive behaviors (Vazire & Funder, 2006). Rather than deliberate, the cognitive processes of narcissists are more self-deceptive: They seem to believe their boasts even when it can be verified that they exaggerate their competence (Paulhus & Williams, 2002). Narcissistic grandiosity also promotes a sense of entitlement (Bushman, Bonacci, van Dijk, & Baumeister, 2003), even aggression, if that grandiosity is threatened (Bushman & Baumeister, 1998; Jones & Paulhus, 2010). In contrast, the notion of narcissistic self-hate has little support (Campbell & Foster, 2007).

It is this grandiose variant of narcissism that is represented in the Dark Triad. Whereas ego-reinforcement is the all-consuming motive behind narcissistic behavior, psychopaths and Machiavellians are more motivated by instrumental or material gain.

Of course, the goals of the different Dark Triad members may sometimes align, thereby precipitating similar behavior. The reason, we argue, is that they share a common callousness that encourages interpersonal manipulation (Jones & Figueredo, 2012; Wai & Tiliopoulos, 2012). Thus, similar instances of callous manipulation would be evident in all three Dark Triad traits.[2] In other cases, the three traits exhibit unique behavior: Ego-promoting outcomes will be best predicted by narcissism, those involving reckless antisocial behavior will be best predicted by psychopathy, and outcomes predicted by a strategic orientation will be best predicted by Machiavellianism.

In sum, Jones and Paulhus (2011b) concluded the following: (a) ego-identity goals drive narcissistic behavior, whereas instrumental goals drive Machiavellian and psychopathic behavior (b) Machiavellianism differs from psychopathy with respect to temporal focus, (c) all three have a callous core that encourages interpersonal manipulation. It was with these guiding principles that we selected items for the new instrument.

Overview of the Present Studies

Although the process of establishing construct validity is never finalized (Furr & Bacharach, 2008; Messick, 1995), several steps are considered essential. In this preliminary report, we focus on structure, reliability, and concurrent validity to build the SD3 instrument.

Guided by the Jones and Paulhus (2011b) review of the seminal literatures, we assembled a large item pool to ensure coverage of the key aspects of each concept. Item refinement and structural analyses finally winnowed this item set down to the final set of 27 items. We then advanced the construct validity of the final instrument by demonstrating that the subscales possessed acceptable internal consistencies and concurrent validities with established measures. We went on to show coherent patterns of convergent and discriminant relations with other relevant variables. Finally, we confirmed that informant perceptions corroborate the self-reports. The final instrument was labeled the Short Dark Triad or SD3.

Study 1: Item Selection and Reduction

We began with a pool of items designed to circumscribe the classic conceptions of the Dark Triad constructs. In particular, we ensured that subclinical psychopathy was represented by items tapping impulsivity, callous manipulation, and antisocial behavior. Machiavellian facets included cynicism and manipulation tactics. For subclinical narcissism, we included items tapping self-centeredness and grandiosity: Instead of the forced choice format of the NPI, only rating items were used (see, Emmons, 1987).

Recall that our goal was twofold: (a) to reduce the number of items as much as possible and (b) to retain the conceptual facets of each triad member. Therefore, the process was a delicate combination of rational and empirical steps. The result was a 27-item instrument.

Method

Participants. Participants consisted of 489 adults recruited from Amazon's Mechanical Turk (MTurk). Country of origin was restricted to Canada and the United States. Ethnicities: 67% European heritage, 11% South Asian, 4% African heritage, 5% East Asian, 3% Latino(a), 10% other). Mean age = 30.72 years, *SD* = 11.09 and, 47% were female. They were paid a small fee ($0.50).

To check for random responding, we included two validity check items: "I was born in Pago-Pago" and "I breathe oxygen every day." A total of 2% to 4% were caught this way. Elimination of these individuals had minimal effect on our results and certainly did not alter our message. A similar procedure was used in all our MTurk surveys.

MTurk has proved to be an invaluable source of data for survey research: The data surpass student samples in diversity and are comparable in quality (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). As a result, MTurk has now become a popular source of participants for research in sociology, and economics, as well as psychology.

Procedure. The questionnaire package was placed on the Mturk website for 3 weeks and interested participants completed the half-hour task for $50. It began with a series of demographic questions (e.g., gender, age, ethnicity). Participants were then asked to rate their agreement with each of the 41 items generated for the SD3 (Table 1). The response format was 1 (*strongly disagree*) to 5 (*strongly agree*).

Table 1. The Original 41-Item Set With Theoretical Origins.

Machiavellianism items	
1. It's not wise to tell your secrets.	(Reputation)
2. Most people who get ahead in the world lead clean moral lives.	(Cynicism)
3. Generally speaking, people won't work hard unless they have to.	(Cynicism)
4. There's a sucker born every minute.	(Cynicism)
5. Most people are basically good and kind.* (reversal)	(Cynicism)
6. It's better to be totally honest than to be successful. (reversal)	(Cynicism)
7. Whatever it takes, you must get the important people on your side	(Coalition Building)
8. Avoid direct conflict with others because they may be useful in the future.	(Coalition Building)
9. It's wise to keep track of information that you can use against people later.	(Planning)
10. There are things you should hide from other people to preserve your reputation.	(Reputation)
11. You should wait for the right time to get back at people.	(Planning)
12. Make sure your plans benefit you, not others.	(Planning)
13. Most people deserve respect. (reversal)	(Cynicism)
Narcissism items	
1. People see me as a natural leader.	(Leadership)
2. I hate being the center of attention. (reversal)	(Exhibitionism)
3. I am an average person. (reversal)	(Grandiosity)
4. I get bored hanging around with ordinary people.	(Grandiosity)
5. Many group activities tend to be dull without me.	(Grandiosity)
6. I know that I am special because everyone keeps telling me so.	(Grandiosity)
7. People often think my stories are boring. (reversal)	(Grandiosity)
8. Those with talent and good looks should not hide them.	(Exhibitionism)
9. I like to get acquainted with important people.	(Entitlement)
10. I feel embarrassed if someone compliments me. (reversal)	(Exhibitionism)
11. I insist on getting the respect that I deserve.	(Entitlement)
12. I have been compared to famous people.	(Grandiosity)
13. I am likely to show off if I get the chance.	(Exhibitionism)
Psychopathy items	
1. I like to get revenge on authorities.	(Antisocial Behavior)
2. I avoid dangerous situations. (reversal)	(Erratic Lifestyle)
3. I am a thrill seeker.	(Erratic Lifestyle)
4. Payback needs to be quick and nasty.	(Callous Affect)
5. People often say I'm out of control.	(Erratic Lifestyle)
6. My family is proud of everything I do. (reversal)	(Antisocial Behavior)
7. You have to grab things while the opportunity is there.	(Short-Term Manipulation)
8. It's true that I can be nasty.	(Callous Affect)
9. I get angry if someone turns down having sex with me.	(Short-Term Manipulation)
10. I hate movies where they show blood and guts.	(Callous Affect)
11. People who mess with me always regret it.	(Antisocial Behavior)
12. I have never gotten into trouble with the law. (reversal)	(Antisocial Behavior)
13. I'll say anything to get what I want.	(Short-Term Manipulation)
14. I'm always feeling guilty. (reversal)	(Callous Affect)
15. I like to pick on losers.	(Callous Affect)

Analyses. Our analyses proceeded in four steps. We began by extracting the first unrotated principal component separately for each of the three item-sets (the items assigned to each domains).[3] Results revealed a total of eight items that failed to load on their first unrotated principal component. Next, we conducted an exploratory factor analysis (EFA; principal axis factoring extraction) on the remaining 33 items. That procedure resulted in the removal of four Machiavellianism items and one narcissism item that double-loaded with psychopathy. Finally, the lowest loading psychopathy item was removed to yield nine items per subscale.

Given those changes, we then conducted a final PCA on the remaining 27 items. Results indicated six factors with eigenvalues larger than 1. Because the "eigenvalue > 1" rule tends to overextract, we conducted two tests: Velicer's MAP

criteria (Zwick & Velicer, 1986) and a parallel analysis (Horn, 1965)—the two best methods for determining number of factors (O'Connor, 2000). These methods were applied using *R*, which is capable of handling the polychoric correlation matrix necessary to analyze Likert-type data (see, Muthén & Kaplan, 1985) and can also provide both Velicer's MAP and parallel analysis results. Velicer's MAP suggested that three factors be retained; parallel analysis suggested four factors. The four adjusted eigenvalues were: 1.59, 1.32, 1.06, and 1.05; the four unadjusted eigenvalues were 2.04, 1.62, 1.25, and 1.17.

Guided by Velicer's MAP results, our three-factor hypothesis was evaluated on the final 27 items. We used the software Mplus for this final EFA, given its ability to handle polytomous data (Muthén & Muthén, 1998-2007). Our final EFA applied mean and variance adjusted weighted least squares extraction and an oblique (promax) rotation. Mean and variance adjusted weighted least squares is recommended for analysis of a polychoric correlation matrix (Muthén & Muthén, 1998-2007). The final EFA suggested all items loaded appropriately (>.30) on their corresponding factor. Table 2 (first three columns) presents the results of this final EFA.

Subscales. When formed into composites, the three 9-item scales showed the expected positive intercorrelations of moderate size. Machiavellianism correlated positively with psychopathy, $r = .50$, and with narcissism, $r = .18$. Psychopathy correlated with narcissism at $r = .34$. All three values were significant at $p < .001$. The subscales also showed modest, but acceptable reliabilities (Mach $\alpha = .71$, psychopathy $\alpha = .77$, narcissism $\alpha = .74$).

Item means for each subscale in the final instrument are included in Table 3 – as are means from the subsequent studies using the final 27-item version. To investigate possible gender differences, we calculated the values separately for male and female participants. Note that males scored higher on all three subscales, with moderate to large effect sizes.

Study 2: Cross-Validation of the SD3 Scales

Because the three composites were assembled from factor analyses, we needed to cross-validate the three-factor structure in a new data set. Rather than a traditional confirmatory factor analysis (CFA), our method of choice was exploratory structural equation modeling (ESEM; Asparouhov & Muthén, 2009). ESEM is an elegant method that allows for a guided examination of loading fit, without blinding the researcher to the cross-loadings.

In brief, ESEM involves specifying one or more core items while allowing the remaining item loadings to vary.

Table 2. EFA and ESEM Factor Loadings for Final 27 Items in Studies 1 and 2.

Items	F 1 (Mach)	F 2 (Narc)	F 3 (Psych)	F 1 (Mach)	F 2 (Narc)	F 3 (Psych)
Mach1	.38	−.19	−.20	.76	−.14	−.59
Mach2	.31	−.04	.14	.72	−.07	−.35
Mach3	.40	−.18	.01	.62	.27	−.10
Mach4	.52	.33	.01	.57	.11	−.25
Mach5	.59	.04	−.21	.43	.01	−.08
Mach6	.71	.04	.13	.73	*.00†*	*.00†*
Mach7	.62	−.03	.29	.74	−.05	−.60
Mach8	.46	.14	.15	.44	.05	−.02
Mach9	.51	−.11	−.28	.48	.06	−.15
Narc1	−.01	.67	−.27	*.00†*	*.59*	*.00†*
Narc2	.03	.62	.02	.02	.56	.05
Narc3	.17	.43	−.10	−.02	.44	.28
Narc4	.08	.49	.30	.00	.50	.22
Narc5	−.01	.60	.17	.53	.46	−.20
Narc6	.33	.52	−.10	−.04	.31	.02
Narc7	−.03	.48	.16	.03	.35	.36
Narc8	.27	.36	.11	−.01	.28	.18
Narc9	−.04	.44	.23	.35	.26	−.11
Psyc1	.17	−.01	.62	.32	−.09	.47
Psyc2	.01	.38	.31	.37	.23	.35
Psyc3	.30	−.02	.62	.15	.02	.38
Psyc4	−.02	.09	.69	*.00†*	*.00†*	*.74*
Psyc5	.25	−.05	.39	.30	−.14	.32
Psyc6	.30	.17	.50	.42	.08	.31
Psyc7	.33	.15	.41	−.05	−.05	.27
Psyc8	−.03	−.34	.36	.06	−.02	.60
Psyc9	.16	.11	.58	.20	.04	.50

Note. EFA = exploratory factor analysis; ESEM = exploratory structural equation modeling. The anchor items are italicized and marked with a dagger symbol "†".

The criteria are less stringent than CFA, which is unlikely to result in a fitting model if there is ambiguity in the number of factors to extract (which was the case in Study 1). In general, a good CFA fit is unlikely for a multifactor inventory (Marsh et al., 2009; McCrae et al., 1996).

Accordingly, in Study 2, we collected a new sample of respondents ($N = 279$) who provided responses to the final 27-item set. Then we applied ESEM to cross-validate the three factors.

Method

Participants were 279 adults recruited from MTurk (46% women; mean age = 30.7 years, $SD = 10.9$). Country of origin was restricted to Canada and the United States. Ethnicities: 56% European Heritage, 6% South Asian, 8% African Heritage, 4% East Asian, 15% Latino(a), 11% Other mixed ethnicities. Participants were offered $50 to

Table 3. Subscale Means by Gender.

	Men *M* (*SD*)	Women *M* (*SD*)	t	*p*	*d*
Study 1 (*N* = 489)					
Psychopathy	2.26 (0.61)	1.96 (0.57)	5.89	<.001	0.52
Machiavellianism	3.40 (0.55)	3.27 (0.56)	2.39	.005	0.24
Narcissism	2.92 (0.45)	2.78 (0.48)	3.41	.001	0.30
Study 2 (*N* = 279)					
Psychopathy	2.38 (0.63)	2.00 (0.54)	5.43	<.001	0.65
Machiavellianism	3.19 (0.57)	3.03 (0.53)	2.39	.017	0.29
Narcissism	2.96 (0.54)	2.77 (0.59)	2.84	.005	0.34
Study 3 (*N* = 230)					
Psychopathy	2.41 (0.63)	2.04 (0.57)	4.46	<.001	0.64
Machiavellianism	3.12 (0.67)	2.91 (0.53)	2.57	.011	0.35
Narcissism	2.83 (0.57)	2.64 (0.56)	2.45	.015	0.34
SRP-III	2.52 (0.42)	2.20 (0.39)	6.16	<.001	0.79
Mach-IV	2.96 (0.54)	2.76 (0.46)	2.90	.002	0.40
NPI	0.38 (0.19)	0.30 (0.18)	3.18	.004	0.43

Note. NPI = Narcissistic Personality Inventory; SRP-III = Self-Report Psychopathy; Mach-IV = measure of Machiavellianism. Columns 2 and 3 are item means of responses collected in a 5-point item format. All sex differences were significant with $p < .05$, with males scoring higher.

complete the 27-item SD3 as part of a study on peer attitudes.

Analyses, Results, and Discussion

We applied Mplus software (Version 7.1) and followed closely the ESEM procedure and syntax outlined by Asparouhov and Muthén (2009). We set the top loading item from Study 1 to load exclusively on its respective factor. All other items were allowed to cross-load. We treated the rating data as polytymous using WLSMV as the extraction method, Promax as the rotation method, and Theta as the parameterization method.

Table 2 shows the ESEM loadings (last three columns). The corresponding loadings from Study 1 provide a useful comparison. All items loaded (at least .26) on the hypothesized factors. Only two items (Psychopathy 2 and 6), cross-loaded in nontrivial ways: However those cross-loadings did not replicate across samples.[4]

The overall model fit was good (root mean square error of approximation [RMSEA] = .04, comparative fit index [CFI] = .93, Tucker–Lewis index [TLI] = .91) and comparable to previous ESEM studies (see Marsh, Hau, & Wen, 2004). For comparison, we also conducted a CFA on the present sample. Although the fit was not impressive (RMSEA = .07, CFI = .82, TLI = .80), all items loaded appropriately on their respective factors (i.e., >.30).

Note from Table 3 that the SD3 scale means are similar to those in Study 1. As before, male respondents scored higher on all three subscales: Effect sizes were in the moderate to high range. Table 4 provides the scale alphas and intercorrelations. Again, the psychometric properties of the SD3 appear to be robust across samples.

Study 3: Concurrent Validition Against Standard Measures

An essential step in validating a brief proxy is a study that gauges its performance against the gold standard (Credé et al., 2012; Hubley & Zumbo, 1996). Accordingly, Study 3 included the standard Dark Triad measures—Mach IV, SRP-III, and NPI—along with the SD3 subscales.

Method

Participants. Participants were 230 adults recruited from MTurk (58% female; mean age = 28.9 years, *SD* = 10.5). As before, country of origin was restricted to Canada and the United States. The ethnic heritage breakdown was as follows: 62% European, 19% East Asian, 5% African, 5% Latino(a), 3% other). Participants completed the survey for a small fee.

Measures

Short Dark Triad (SD3). We used the final 27-item version to assess the Dark Triad (see the appendix). As before, all items were presented in Likert-type format with anchors 1 (*strongly disagree*) to 5 (*strongly agree*). After recoding the reversals (indicated with "R"), each subscale was formed by averaging the items. Alphas ranged from .68 to .74 and the intercorrelations ranged from .22 to .40 (see Table 4).

Dirty Dozen. For comparison, we included an alternative short measure of the Dark Triad, the "Dirty Dozen" (Jonason & Webster, 2010). Alphas ranged from .73 to .78 and the subscales intercorrelations ranged from .27 to .48.

Psychopathy. As the standard measure, we used the 64-item Self-Report Psychopathy Scale (SRP-III; Paulhus, Neumann, & Hare, in press; Williams et al., 2007). The SRP items are presented in Likert-type format with anchors ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In addition to a total score (α = .92), the SRP items were also averaged into four reliable facets: *Interpersonal Manipulation* (α = .83), *Callous Affect* (α = .77), *Erratic Lifestyle* (α = .79), and *Antisocial Behavior* (α = .82). The instrument has fared well in psychometric and validity evaluations (Mahmut et al., 2011; Neal & Sellbom, 2012; Williams, Nathanson, & Paulhus, 2010).

Machiavellianism. To measure Machiavellianism, we used the 20-item Mach-IV (Christie & Geis, 1970). Alpha of the Mach-IV total was excellent (.83), and those of

Table 4. Intercorrelations and Reliabilities of the Short Dark Triad Scales in Studies 2 and 3.

	Study 2 (N = 279)			Study 3 (N = 230)		
	Machiavellianism	Psychopathy	Narcissism	Machiavellianism	Psychopathy	Narcissism
Machiavellianism	(α = .74)			(α = .76)		
Psychopathy	.40	(α = .72)		.47	(α = .73)	
Narcissism	.22	.31	(α = .68)	.29	.42	(α = .78)

Note. All intercorrelations were significant at $p < .01$, two-tailed.

Table 5. Study 3: Concurrent Validities of SD3 and DD Measured Against Standard Measures.

	SD3			DD		
Standard measure	Machiavellianism	Psychopathy	Narcissism	Machiavellianism	Psychopathy	Narcissism
Mach-IV	**.68$_a$ (.82)**	.49$_b$	.15$_c$	**.53$_b$ (.67)**	.48$_b$	.20$_c$
SRP-III	.47$_a$	**.78$_b$ (.92)**	.37$_{ae}$	.57$_d$	**.56$_d$ (.66)**	.31$_e$
NPI	.24$_a$	.49$_b$	**.70$_c$ (.87)**	.23$_a$	.26$_a$	**.46$_b$ (.55)**

Note. Mach-IV = Christie-Geis Machiavellianism; NPI = Narcissistic Personality Inventory; SRP-III = Self-Report Psychopathy; DD = Dirty Dozen; SD3 = Short Dark Triad. All values greater than .20 are significant at $p < .01$. Correlations within rows with different subscripts are significantly different from each other ($p < .05$). All tests are two-tailed. Fully disattenuated correlations are on the diagonal, in parentheses.

the facets were acceptable: Cynical worldview (.66), and Manipulative tactics (.68).

Narcissism. As our standard measure of narcissism, we used the 40-item forced-choice NPI (Raskin & Hall, 1979). Although undoubtedly the most popular measure of subclinical narcissism, the number of factors continues to be debated. Although as many as seven have been postulated, subscales based on fewer factors are more robust (Kubarych, Deary, & Austin, 2004). Application of the appropriate tetrachoric correlation matrix to analyze dichotomous items, appear to yield two factors (Corry, Merritt, Mrug, & Pamp, 2008). Accordingly, we opted for the two facets labeled Exploitative/Entitlement and Leadership/Authority by Corry and colleagues: In the present data, the subscale αs were .77, and .72, respectively). When combined into a total NPI composite, the reliability was even stronger (α = .89).

Interpersonal Circumplex. We used the International Personality Item Pool—Interpersonal Circumplex (IPIP-IPC) to assess the IPC (Markey & Markey, 2009). This 32-item measure can be broken down into measures of dominance and nurturance (18 items each), or eight octant measures (4 items each).

Previous research has shown that standard measures of the Dark Triad fall in the high dominance and low nurturance quadrant (Fehr et al., 1992; Trapnell & Wiggins, 1998).[5] In octant terminology, it is BC that should be most closely associated with dark personalities (Markey & Markey, 2009). In the present sample, the IPIP-IPC measures of dominance and nurturance were both reliable (αs = .77 and .80, respectively), and the BC octant also had decent reliability (α = .68).

Results and Discussion

First, we calculated the descriptive statistics for the SD3 scales. They are included in Table 3 along with the means for the traditional measures. As usual, the values for males and females indicate moderate to large effect sizes. Differences in the correlational patterns were so minimal that we pooled across genders in all analyses. Next, we examined the correlations of the brief measures with the standard Dark Triad measures.

Note from Table 5 that each SD3 subscale correlated .68 or better with its standard counterpart. When disattenuated for measurement error, these correlations ranged from .82 to .92. In sum, all SD3 measures show a clear correspondence with their criterion counterparts.

In contrast, the DD subscales showed more modest correlations with standard measures of the Dark Triad, ranging from .46 to .56. Of course, the DD subscales are only four-items each. Recall, however, that those subscales had reasonable internal consistencies (.73 to .78). Hence, disattenuation had little effect on the DD correlates.

Facet Representation. We then broke the standard Dark Triad measures into their respective facets to determine if the SD3 subscales are capturing each measure in a balanced way. We did the same for the subscales of the DD. The Mach-IV was partitioned into its two major facets: manipulative tactics and cynical worldview (Christie & Geis, 1970; Fehr et al.,

Table 6. Comparing the SD3 and DD With Facets of the Standard Measures in Study 3.

	SD3			DD		
	Machiavellianism	Psychopathy	Narcissism	Machiavellianism	Psychopathy	Narcissism
Mach-IV facets						
Cynical Worldview	**.55** $_{a}$ **	.47 $_{ac}$ **	.11 $_{b}$	**.44** $_{c}$ **	.33 $_{c}$ **	.11 $_{b}$
Machiavellian Tactics	**.52** $_{a}$ **	.33 $_{b}$ **	.19 $_{c}$ *	**.41** $_{b}$ **	.52 $_{a}$ **	.31 $_{b}$ **
SRP facets						
Manipulation	.57 $_{a}$ **	**.67** $_{b}$ **	.39 $_{c}$ **	.50 $_{a}$ **	**.67** $_{b}$ **	.35 $_{c}$ **
Callous Affect	.47 $_{a}$ **	**.63** $_{b}$ **	.24 $_{c}$ *	.62 $_{b}$ **	**.30** $_{c}$ **	.08 $_{d}$
Erratic Lifestyle	.27 $_{a}$ **	**.59** $_{b}$ **	.34 $_{a}$ **	.33 $_{a}$ **	**.32** $_{a}$ **	.30 $_{a}$ **
Antisocial Behavior	.13 $_{a}$ **	**.57** $_{b}$ **	.20 $_{ac}$ *	.30 $_{cd}$ **	**.36** $_{d}$ **	.21 $_{ac}$ **
NPI facets						
Exploitative/Entitlement	.16 $_{a}$ *	.38 $_{b}$ **	**.60** $_{c}$ **	.11 $_{ab}$	.15 $_{ca}$ *	**.32** $_{c}$ **
Leadership/Authority	.15 $_{a}$ **	.49 $_{bd}$ **	**.56** $_{b}$ **	.28 $_{c}$ **	.28 $_{c}$ **	**.41** $_{d}$ **

Note. NPI = Narcissistic Personality Inventory; DD = Dirty Dozen; SD3 = Short Dark Triad. N = 230. Values within rows with different subscripts are significantly different from each other ($p < .05$). All tests are two-tailed. Boldfaced values are those of most theoretical importance.
*$p < .05$. **$p < .01$.

1992). Similarly, the NPI was broken into two facets: Exploitative/Entitlement and Leadership/Authority (Corry et al., 2008). Finally, the SRP-III was broken into its four facets (see Mahmut et al., 2011; Neal & Sellbom, 2012; Williams et al., 2007).

As can be seen in Table 6, each SD3 subscale correlates strongly and comparably with all facets of the scale it was designed to emulate. For example, the correlation between the SD3 Machiavellianism subscale and the two Mach-IV facets did not differ (based on nonsignificant Z-scores for correlation differences). Moreover, a regression of the SD3 Mach subscale on the two Mach-IV facets showed that both were unique contributors to the model (Cynical $\beta = .38$, $p < .001$; Manipulative $\beta = .33$, $p < .001$).

The SD3 psychopathy subscale was also well balanced: Correlations between the SD3 measure of psychopathy and the four facets of the SRP were all similar (i.e., no significant correlation differences using Z-tests). When SD3 psychopathy was regressed on the four facets of the SRP, each made a positive contribution (Manipulation $\beta = .33$, $p < .001$; Callous Affect $\beta = .24$, $p < .001$; Erratic Lifestyle $\beta = .17$, $p = .002$; Antisocial Behavior $\beta = .25$, $p < .001$).

The SD3 narcissism subscale was also well balanced: Correlations with the two NPI facets were similar in size (i.e., no significant correlation difference using Z-tests). Regressing SD3 narcissism on the two NPI facets revealed positive and significant contributions (Exploitative/Entitlement $\beta = .42$, $p < .001$; Leadership/Authority Affect $\beta = .35$, $p < .001$).

Dirty Dozen. Compared with the SD3 versions, all three DD subscales showed weaker correlations with the facets of its corresponding standard (Table 6). The DD psychopathy subscale seemed to have only scattered coverage of the SRP: When it was regressed on the four SRP facets, only manipulation and antisocial behavior were positive predictors (Manipulation $\beta = .67$, $p < .001$; Antisocial Behavior Affect $\beta = .24$, $p < .001$). The other two facets were negative predictors of the DD (Manipulation $\beta = -.11$, $p = .11$; Erratic Lifestyle $\beta = -.085$, $p = .19$). These results suggest that the DD does not cover the full range of psychopathy (confirming Miller et al., 2012). Given its poor validities and its imbalanced facet coverage, we put the remaining DD analyses online at www.psych.ubc.ca/~dpaulhus/online_material/SD3/

Interpersonal Circumplex. According to previous research and theory (Jones & Paulhus, 2011b; Trapnell &Wiggins, 1998), all three members of the Dark Triad should be correlated with the BC octant of the circumplex. This octant is characterized by high levels of dominance, low levels of nurturance, and has sometimes been referred to as the hostile or antagonistic octant (Horowitz et al., 2006).

As expected, each SD3 subscale correlated with dominance, (low) nurturance, and the BC octant score in a fashion similar to that of the standard Dark Triad members. A series of Z-tests confirmed that the SD3 subscale and its standard counterpart had statistically comparable correlations with dominance, nurturance, and the BC octant (all Z-scores < 1.41).

As is clear from Table 7, the exact circumplex locations of the Dark Triad members also replicated previous research. For the standard measures, psychopathy and Mach showed the high-dominance/low-nurturance pattern with narcissism showing high-dominance and moderate-nurturance. The same pattern was observed for the SD3 subscales. This correspondence adds further construct validity to the SD3 subscales based on their location in personality space (Bradlee & Emmons, 1992).

Table 7. Projections of the SD3 and Standard Measures Onto the Interpersonal Circumplex.

Scale	Dominance	Nurturance	BC Octant
Machiavellianism scales			
Mach-IV	.18 $^{*}_{a}$	−.49 $^{**}_{a}$	.35 $^{**}_{a}$
SD3-Mach	.12 $_{a}$	−.43 $^{**}_{a}$	.37 $^{**}_{a}$
Psychopathy scales			
SRP	.42 $^{**}_{b}$	−.42 $^{**}_{a}$	.43 $^{**}_{ab}$
SD3-Psych.	.41 $^{**}_{b}$	−.49 $^{**}_{a}$	.49 $^{**}_{b}$
Narcissism scales			
NPI	.58 $^{**}_{c}$	−.06 $_{b}$	.29 $^{**}_{a}$
SD3-Narcissism	.65 $^{**}_{c}$	.02 $_{b}$	.35 $^{**}_{a}$

Note. NPI = Narcissistic Personality Inventory; SD3 = Short Dark Triad. N = 230. Within columns, correlations with different subscripts are significantly different ($p < .05$). All tests are two-tailed.
$^{*}p < .05$. $^{**}p < .01$.

Study 4: Informant Perceptions

Many reputable sources argue that corroboration by close informants (e.g., peers, spouses) is the most credible method for validating a self-report instrument (McCrae & Weiss, 2007). When successful, the method demonstrates agreement between self-perceptions and social consensus regarding the personality of a set of targets (Vazire, 2006). In the case of dark personalities, a key advantage of informant reports is that they are not threatened by contamination with socially desirable responding.

However, informant judgments are typically more highly intercorrelated than are self-ratings (McCrae, Herbst, & Costa, 2001). In the case of dark personalities, this method variance is likely to be especially strong because of the strong negative halo factor that aversive variables share (Furr & Bacharach, 2008). Hence, simultaneous validation of three overlapping variables will be especially difficult. The task requires establishing distinct informant measures and matching them to their corresponding self-report measures.

Fortunately, we were able to draw on previous work by Nathanson (2003). From a variety of rating dimensions, he isolated three item sets to represent the Dark Triad. The four Machiavellianism items were as follows: (a) *Sees him/herself as a trickster* (amorality), (b) *Is a clever bargainer* (manipulation tactics), and (c) *Admires cunning people, like shrewd lawyers and businessmen* (cynical worldview). The three psychopathy items were (a) *Is callous toward others* (Callousness), (b) *Takes risks for no good reason* (Erratic Lifestyle), and (c) *Has no respect for society's rules* (Antisocial Behavior). The two narcissism items were (a) *Loves the spotlight* (Vanity) and (b) *Keeps turning the conversation back to him or herself* (Entitlement).

In a sample of 99 students, Nathanson (2003) found a reasonable correspondence between the informant rating composites and the traditional self-report measures of the Dark Triad. Correlations between the self- and corresponding informant-ratings averaged .38 whereas the off-diagonals averaged .19. In short, the self and informant ratings validated each other: The traditional questionnaires were able to predict social consensus and the informant ratings were shown to capture the same individual differences as the standard self-reports.

The present study evaluated whether the SD3 scales could predict informant ratings. Given their brevity, however, we did not expect the SD3 associations to be as high as those achieved by Nathanson (2003).

Method

A total of 65 participants completed the SD3 via Amazon's Mechanical Turk. Again, country of origin was restricted to Canada and the United States. The mean age was 20.1 and 60% were female. They were offered extra payment if they provided the address of one acquaintance who knew them well enough to rate their personality. The informants included friends, family members, and romantic partners. To minimize double responding, target participants were excluded if the informant IP address matched the target's IP address. Participants had to agree not to ask the informants about their ratings.

Informants were instructed as follows: (a) they were not allowed to send their ratings to the target person and (b) to be as objective as possible; their ratings would not be useful otherwise. A total of 65 informant ratings were received.

Results

Alpha reliabilities for the SD3 subscales were .71, .77, and .80 for narcissism, Machiavellianism, and psychopathy respectively. The corresponding values for the informant composite ratings were .67, .62, and .86. As expected, correlations among the informant subscales (mean = .46) were higher than those among the self-report subscales (mean = .29).

The top half of Table 8 displays the correlations between the SD3 subscales and the three informant rating composites. The high diagonal values indicate substantial convergence of corresponding self- and informant ratings. Note that correlations with the informant ratings are generally higher for psychopathy because of its substantially higher alpha. Hence, the reader should focus on the values in parentheses, which are disattenuated for unreliability. It then becomes clear that the SD3 convergent validities are the largest values in each column.

For the bottom half of Table 8, we used regression analyses to control for overlap among the informant composites (beta values in first set of parentheses). We then controlled for overlap among the self-report subscales (beta values in the second set of parentheses). In all cases, the diagonal

Table 8. Validation of SD3 Subscales Against Corresponding Informant Reports.

	Informant reports		
	Narcissism	Machiavellianism	Psychopathy
SD3 subscales		Correlations	
Narcissism	**.34* (.52)**	.14 (.20)	.46* (.49*)
Machiavellianism	.21 (.31)	**.42* (.59*)**	.51* (.55*)
Psychopathy	.21 (.31)	.35* (.47*)	**.57* (.61*)**
		Regression coefficients	
Narcissism	**.45*/.42***	.00/−.17	.32*/.40*
Machiavellianism	.10/.01	**.48*/.41***	.28*/.32*
Psychopathy	.18/.02	.28*/.19	**.43*/.50***

Note. SD3 = Short Dark Triad. $N = 65$. Boldfaced values represent informant validation of the SD3 scales. In the correlations, the values in parentheses are disattenuated to control for alpha differences. In the regression results, values are controlled for overlap among the SD3 scales and then for overlap among the informant composites.
*$p < .01$ (two-tailed tests).

values are higher than the off-diagonals. In short, the peer ratings corroborated the SD3 scores for all three of the Dark Triad.

We were pleasantly surprised that these validities stood up well in comparison with those reported by Nathanson (2003) using the traditional full scales. Instead of .36, .38, and .43, for narcissism, Machiavellianism, and psychopathy, the SD3 validities were .42, .34, and .57, respectively. Thus, use of our brief measures actually increased the mean validity for two of the three constructs. Our mean diagonal correlation was 44.3—substantially larger than the mean off-diagonal of 33.7.

It should be noted that there is less differentiation among the informant reports than among self-reports. In particular, those rated high in psychopathy by informants scored high on all three of the SD3. We address this point below in the general discussion.

General Discussion

This report has described the creation and preliminary validation of the SD3 questionnaire. After a review of the seminal literature, we generated items, subjected them to a variety of analyses, and found support for their differentiation into the expected three factors. To represent them, we formed three 9-item composites, and examined their external correlates. Our four studies suggest that the SD3 achieves an optimal compromise between instrument brevity and respectable reliability and validity.

Using a variety of approaches, we showed that the SD3 subscales provide useful proxies for the established Dark Triad measures they were meant to replace. We confirmed that the three subscales fell in the theoretically appropriate circumplex locations and provided full coverage of the classic constructs. Gender differences paralleled those of the longer measures. Of particular importance, we demonstrated external validity by showing that the SD3 scales predicted corresponding informant-ratings. Hence, the Dark Triad constructs are not just artifacts of self-report variance.

The SD3 questionnaire has already drawn support from other research groups (e.g., Arvan, 2011; Ashton-James & Levordashka, 2013; Baughman, Dearing, Giammarco, & Vernon, 2011; Giammarco, Atkinson, Baughman, Veselka, & Vernon, 2013; Holtzman, 2011; Lee et al., 2013). For example, Ashton-James and Levordashka (2013) used the SD3 to demonstrate discriminant validity at the behavioral level: Narcissists, but not psychopaths or Machiavellians, mimic high-status others. In sum, empirical support for the SD3 extends well beyond cross-sectional in our research and elsewhere.

Limitations

Although they were inconsistent, some cross-loadings appeared in our latent variable procedures. They were not unexpected, given that we hypothesized overlap among our three constructs. For that reason, we turned to the hybrid method, ESEM, held to be superior for multifactor instruments such as ours (see Asparouhov & Muthén, 2009; Marsh et al., 2009). That method helped address the limitation and jibes with the fact that the SD3 scales perform well in both concurrent and predictive validity.

A second limitation has to do with our informant rating scales. Of the three, the psychopathy measure showed the highest correlations with the SD3. We traced part of this advantage to a substantially higher alpha for psychopathy. Even after adjusting for differential alphas, the psychopathy scale showed the highest correlations. Future research should include development of improved informant rating scales. In addition, future research should go beyond rating measures to concrete behavior. We have already begun to study some possible behavioral outcomes (Paulhus & Jones, 2013).

Alternatives

For researchers with sufficient space and time, the standard measures remain an option for measuring the Dark Triad. Other brief measures are also available. Best researched is the 12-item "Dirty Dozen" (Jonason & Webster, 2010). Unfortunately, the consequences of its extreme brevity have drawn criticism (see our introduction). Two other brief measures are also noteworthy (Harms, Roberts, & Kuncel, 2004; MacNeil, Whaley, & Holden, 2007). Unfortunately, the authors of these conference presentations have yet not followed up on these measures. Future research may support their utility.

The SD3, we have argued, meets acceptable psychometric standards while capturing the classic conceptions of the Dark Triad traits. At the same time, its brevity will permit researchers to pursue Dark Triad research even when time and space are at a premium.

Appendix

The Short Dark Triad (SD3)

Instructions: *Please indicate how much you agree with each of the following statements*

Disagree strongly	*Disagree*	*Neither agree nor disagree*	*Agree*	*Agree strongly*
1	***2***	***3***	***4***	***5***

Machiavellianism

1. It's not wise to tell your secrets.
2. I like to use clever manipulation to get my way.
3. Whatever it takes, you must get the important people on your side.
4. Avoid direct conflict with others because they may be useful in the future.
5. It's wise to keep track of information that you can use against people later.
6. You should wait for the right time to get back at people.
7. There are things you should hide from other people to preserve your reputation.
8. Make sure your plans benefit yourself, not others.
9. Most people can be manipulated.

Narcissism

1. People see me as a natural leader.
2. I hate being the center of attention. (R)
3. Many group activities tend to be dull without me.
4. I know that I am special because everyone keeps telling me so.
5. I like to get acquainted with important people.
6. I feel embarrassed if someone compliments me. (R)
7. I have been compared to famous people.
8. I am an average person. (R)
9. I insist on getting the respect I deserve.

Psychopathy

1. I like to get revenge on authorities.
2. I avoid dangerous situations. (R)
3. Payback needs to be quick and nasty.
4. People often say I'm out of control.
5. It's true that I can be mean to others.
6. People who mess with me always regret it.
7. I have never gotten into trouble with the law. (R)
8. I enjoy having sex with people I hardly know
9. I'll say anything to get what I want.

Note. The subscale headings should be removed before the SD3 is administered. Items should be kept in the same order. Reversals are indicated with (R).

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Notes

1. Even the behavior–genetic profiles are different. Although all three have a clear genetic component, Machiavellianism also has environmental roots (Vernon, Villani, Vicker, & Harris, 2008).
2. Alternative interpretations of the core include Honesty-Humility (Ashton & Lee, 2008; Lee & Ashton, 2005), agreeableness (Jakobwitz & Egan, 2006), and deceptiveness (Giammarco et al., 2013).
3. Because gender differences in the pattern of correlations were minimal, we pooled male and female respondents.
4. Subsequently, one psychopathy item was replaced with a comparably performing item "I enjoy having sex with people I hardly know." The original item "I like to pick on losers" overlapped with a fourth dark dimension, namely, sadistic personality (Buckels, Jones, & Paulhus, 2013).
5. Of the three, narcissism is closest to neutral on nurturance (see, Bradlee & Emmons, 1992; see also, Rhodewalt & Morf, 1995; Ruiz, Smith, & Rhodewalt, 2001). That finding is consistent with an extended agency interpretation (Campbell & Foster, 2007).

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