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The Dark Triad traits and individual differences in self-reported and other-rated creativity

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ABSTRACT

The current study ($N = 402$) explored the relationship between the Dark Triad traits (i.e., narcissism, Machiavellianism, and psychopathy) and individual differences in creativity. We measured the Dark Triad traits with the Dirty Dozen and the Short Dark Triad. Participants completed three alternative use tasks that were independently scored by four judges for the number of responses offered (i.e., fluency), the general level of creativity, and the harmfulness of their responses (i.e., using an innocent object for nefarious purposes). We also assessed self-reported creativity with an *ad hoc* measure of domain-general creative ability. Those high in narcissism reported being more creative than most individuals, but were rated as less creative. Machiavellianism and psychopathy were positively correlated with harm-based creativity; with male-specific correlations in psychopathy. Results are discussed in terms of creativity as an expression of latent biases that characterize the Dark Triad traits.

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In hopes of better understanding darker aspects of personality psychology, researchers have begun to assess individual differences in the Dark Triad traits (Paulhus & Williams, 2002) in relation to various psychology fields (Hodson, Hogg, & MacInnis, 2009; Spain, Harms, & Leberton, 2014). The Dark Triad traits are characterized by vanity and self-centeredness (i.e., narcissism), manipulation and cynicism (i.e., Machiavellianism), and callous social attitudes and aggressiveness (i.e., psychopathy). Previous research on the associations between darker personality traits and individual differences in creativity has revealed that narcissism accounts for the most variance in self-reported creative outputs with limited evidence for links for psychopathy and Machiavellianism (Furnham, Hughes, & Marshall, 2013; Jonason, Richardson, & Potter, 2015; McKay, Karwowski, & Kaufman, 2017). Furthermore, disagreeableness is correlated with creativity (Batey, Chamorro-Premuzic, & Furnham, 2009; Furnham et al., 2013; King, Walker, & Broyles, 1996). Given the centrality of disagreeableness when understanding the Dark Triad traits, the failure to find associations for psychopathy and Machiavellianism is puzzling.

Unfortunately, the research on the relationships between and the Dark Triad traits and individual differences in creativity is limited in a number of ways. First, the results were equivocal across different measures of self-reported creativity across artistic domains like music, theater, and dance (Galang, Castelo, Santos, Perlas, & Angeles, 2016; Jonason, Richardson, & Potter, 2015; McKay et al., 2017). Second, few studies have assessed the Dark Triad traits in relation to individual

differences in creative ability in the form of fluency (i.e., the number of creative responses one can generate) or had participant's creative expressions of participants judged and rated objectively. And, third, as most research on creativity tends to assume it is used as a force for good (Batey, 2006; Guilford, 1967; Runco & Jaeger, 2012), its standardized assessments may be biased in that way. Few studies have attempted to assess the darker or more aggressive or even criminalistic variants of creative expression (Cropley, Cropley, Kaufman, & Runco, 2010; Gino & Ariely, 2012; Walczyk, Runco, Tripp, & Smith, 2008) in relation the Dark Triad traits. In this study, we address these limitations from the framework that creative expression, or the lack thereof, is a downstream correlate of the cognitive and motivational biases characteristic of each trait (Lee & Dow, 2011; Yoruk & Runco, 2014).

While there is considerable overlap between the Dark Triad traits (Paulhus & Williams, 2002), there is still cause to explore the traits independently. For example, psychopathy and Machiavellianism appear to be the “darker” shades of the Triad (Jonason, Strosser, Kroll, Duineveld, & Baruffi, 2015). This aggressive (Jonason, Slomski, & Partyka, 2012), deceptive (Baughman, Jonason, Vernon, & Lyons, 2014), and antisocial (Cleckley, 1941) nature may result in a destructively biased form of creative expression. As such, we predict these traits to be correlated with individual differences in the capability of seeing innocuous objects (e.g., a brick) in nefarious, antisocial ways (e.g., breaking a window). In addition, given the cross-culturally stable sex differences in the Dark Triad traits (Jonason, Li, & Czarna, 2013) and aggressiveness, there is cause to predict that these correlations might be moderated by participant's sex such that it is in men that the correlations between Machiavellianism and psychopathy are linked to this form of “dark” creative expression.

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In contrast, narcissism is uniquely characterized by its associated, inflated self-appraisals (Foster, Campbell, & Twenge, 2003), appraisals that are often in direct contradiction to how others see them (John & Robins, 1994) and may result in greater self-reported creative outputs (Galang et al., 2016; Jonason, Richardson, & Potter, 2015). However, it is unclear whether narcissism is genuinely associated with greater abilities in creative enterprises (Lasch, 1979) or whether they just report more creative ability as part of their general sense of seeing themselves in a positive and even inflated ways. In order to test this “delusions of grandeur” hypothesis, we examine whether narcissism is correlated with self-rated and other-rated creativity.

And last, psychopathy is considered the “worst” of the Dark Triad traits, showing stronger links to various cognitive deficits and interests that may undermine creative outputs (Jonason, Richardson, & Potter, 2015; but see Galang et al., 2016). Those high in psychopathy may be impulsive and lack self-control (Jonason & Tost, 2010; Jones & Paulhus, 2011) which may undermine the cognitively demanding task of being creative by limiting focus and encouraging a tendency to rush through tasks (Guilford, 1967). The lack of creativity associated with psychopathy may be *prime facie* evidence for the pathological nature of this trait. In addition, if the apparent limited creativity is a function heightened impulsivity, when we control for the time taken to complete the task, the correlations between psychopathy and creativity should be nearly zero.

Creativity has implications for the psychology of children (Urban, 1991) and the elderly (Flood & Phillips, 2007), and is related to individual differences in intelligence (Barron & Harrington, 1981), decision making (Collins & Koechlin, 2012), and personality (Baas, Roskes, Sligte, Nijstad, & De Dreu, 2013; Wolfradt & Pretz, 2001). However, most work has focused on more socially desirable aspects of personality like openness to experience and extraversion (King et al., 1996; Sung & Choi, 2009). Here we build on previous research on the Dark Triad traits and individual differences in creativity from the perspective that the former represent latent motivational biases that drive downstream factors like the latter.

1. Method

1.1. Participants and procedure

American MTurk workers ($N = 248$; US\$0.50) and Australian volunteers solicited through Facebook ($N = 154$), aged 17–70 ($M = 32.52$, $SD = 11.08$; 186 men, 216 women), participated in this study.¹ The majority (81%) of the sample was of White/Caucasian descent, with 4% Hispanic/Latino descent, 6% of Asian descent, 4% Black/African American descent, and the remainder reporting some “other” ethnic identity. The average participant had a tertiary school degree (53%) or a secondary school degree (24%). Participants were informed of the nature of the study, gave consent, completed measures discussed below, reported demographics, and were thanked and debriefed upon completion. With the exception of a weak correlation between age and number of responses offered ($r(400) = 0.15$, $p < 0.01$), results in the creativity tasks did not differ as a function of ethnicity (i.e., white v. non-white), sample-type, or level of education and, thus, analyses are conducted across those distinctions.

¹ Men and women were largely the same for measures of creative ability ($t_s = -0.14$ to -1.52) but men

($M = 3.51$, $SD = 0.68$) felt they had more ($t(400) = 4.00$, $p < 0.01$, $d = 0.40$) creative ability than women did ($M = 3.24$, $SD = 0.67$), which was partially mediated by partially mediated by individual differences in the Dirty Dozen measure of narcissism (Sobel's $z = 2.73$, $p < 0.01$) and in the Short Dark Triad measure of narcissism ($z = 2.70$, $p < 0.01$). Unsurprisingly, men scored higher on the Dark Triad traits than women did with the largest sex differences in psychopathy (Cohen's $d = 0.45$) for the Dirty Dozen and Machiavellianism ($d = 0.32$) for the Short Dark Triad. More details available upon request.

1.2. Ratings

Creative ability was measured using three (i.e., brick, newspaper, and paperclip) alternative uses objects (Gilhooly, Fioratou, Anthony, & Wynn, 2007) in an online, free-response assessment. Participants were given only 3 min per object in hopes of simultaneously minimizing fatigue, any online searching for responses, and to get at spontaneous, cognitive flexibility over more deliberative processing. Participants took on average 319 s ($SD = 154.92$) to complete all three object tasks; a variable we include in analyses as a covariate later. We treated participants' responses in three ways but generally did so to avoid scoring problems in others ways of assessing creativity (Mumford, Marks, Connelly, Zaccaro, & Johnson, 1998).

First, participants collective responses across the three objects were independently scored by four trained judges (the last four authors) for creativity (1 = *not at all*; 5 = *very much*) using the Consensual Assessment Technique (Amabile, 1982). For example, with the target item “brick”, if participants said it was to be used to “build a home” indicated a low score of one, whereas, using a “brick” to stop weeds from growing was scored a five. Each rater independently evaluated each participant's responses to each task and arrived at an average creativity rating for each participant (Mean Cronbach's $\alpha = 0.85$, across raters). The ratings of the four were summed across all three objects giving us an other-rated average score of participant's creativity with high inter-rater reliability ($\alpha = 0.86$; $M = 3.00$, $SD = 0.81$).

Second, the same four raters counted the number of responses each participant offered to all three objects. Each rater provided a total count for each participant per object. We averaged the number of responses offered by each rater across each of the three objects to create a count of creative responses with high inter-rater reliability ($\alpha = 0.99$; $M = 18.98$, $SD = 8.80$; $Range = 3$ to 94).

Third, the same four raters assessed a random selection of 1/4 of the data independently (Silvia et al., 2008) on how “harmful” (1 = *not at all*; 5 = *extremely*) each participant's responses could be after a training session where all five authors did three evaluations collectively to reach consensus and to standardize evaluations. This was adopted as opposed to more lengthy inter-rater reliability procedures from above to save time. Again, we used the Consensual Assessment Technique (Amabile, 1982). For example, if a participant indicated they would use the target item “brick” as a “weapon” this was scored a five, whereas to score a one, the participant needed to list a “brick” to “build a house”. We compared scores across the four raters on the data each evaluated, suggesting raters did not systematically differ on how they evaluated the random selection of participants they were allocated ($F(3, 398) = 0.77$, $p > 0.05$) and, thus, the ratings from the four raters were averaged across the three objects to get a sense of the harmfulness of the responses in a single index ($M = 2.79$; $SD = 1.23$).

1.3. Measures

We measured self-reported, general creative ability as opposed to success in domains of creativity (e.g., Silvia, Wigert, Reiter-Palmon, & Kaufman, 2012) with an 11-item author-constructed measure. Participants were asked to indicate their agreement (1 = *strongly disagree*; 5 = *strongly agree*) with items like “I am innovative in my approach to situations” and “When I am shown a new object, I often think of multiple ways I can use that object”. Given that we created this measure, we ran a Principal Components Analysis with a varimax rotation. These items loaded well (i.e., 0.61–0.81) on a single factor (Eigen = 5.14; 51.35% of the variance) and, thus, were averaged to create a single index of self-reported creativity ($\alpha = 0.89$; $M = 3.35$, $SD = 0.69$). A full account of the actual items used is available upon request.

The 27-item Short Dark Triad (Jones & Paulhus, 2014) was used to measure Machiavellianism (e.g., I like to use clever manipulation to get my way.), narcissism (e.g., I insist on getting the respect I deserve.), and psychopathy (e.g., people who mess with me always regret it.).

Participants indicated their agreement to the above with (1 = *strongly disagree*; 5 = *strongly agree*). Items for each scale were averaged together to create indexes of narcissism ($\alpha = 0.78$; $M = 2.94$, $SD = 0.44$), Machiavellianism ($\alpha = 0.82$; $M = 2.99$, $SD = 0.63$), and psychopathy ($\alpha = 0.75$; $M = 2.40$, $SD = 0.63$).

In addition, to provide methodological robustness, we assessed the Dark Triad in a second way with the 12-item Dark Triad Dirty Dozen with four items per subscale (Jonason & Tost, 2010). Participants indicated their agreement with (1 = *not at all*; 5 = *very much*) with statements such as “I have used deceit or lied to get my way” (e.g., Machiavellianism), “I tend to want others to admire me” (e.g., narcissism), and “I tend to lack remorse” (e.g., psychopathy). Items for each scale were averaged together to create indexes of narcissism ($\alpha = 0.83$; $M = 2.70$, $SD = 0.87$), Machiavellianism ($\alpha = 0.76$; $M = 2.61$, $SD = 0.84$), and psychopathy ($\alpha = 0.81$; $M = 2.16$, $SD = 0.87$).

2. Results

We report correlations between the Dark Triad traits and creativity (Table 1). When looking at the Dirty Dozen scale, psychopathy and Machiavellianism were correlated with harm-based creativity and narcissism was correlated with self-reported creativity. When we controlled for shared variance among the Dark Triad traits using standard multiple regression for just the Dirty Dozen scales, psychopathy newly emerged with a negative correlation with self-reported creative ability ($\beta = -0.13$, $p < 0.05$) and the association between narcissism and self-reported creative ability remained significant ($\beta = 0.28$, $p < 0.01$). In the case of the psychopathy association, there appears to be some weak suppression present which might reveal that the darkest and potentially non-overlapping portions of psychopathy (to the other traits) do have negative associations with self-reported creativity. This might translate into an interpretation whereby only some parts of psychopathy are problematic in relation to creativity but as suppression effects are hard to interpret, more work would be needed to explore this (e.g., examining aspects of psychopathy).

When we looked at the Short Dark Triad scales, narcissism, again, was correlated with self-reported creative abilities but it was also negatively correlated with other-rated creativity. Psychopathy was negatively correlated with other-rated creativity and the number of responses offered. Machiavellianism was only correlated with ratings of the harmfulness of the responses offered. When we controlled for shared variance as we did above, psychopathy was associated with the number offered ($\beta = -0.19$, $p < 0.01$), Machiavellianism was associated with harm-based creativity ($\beta = 0.19$, $p < 0.01$), and narcissism was associated with more self-reported creativity ($\beta = 0.28$, $p < 0.01$) and lower other-rated creativity ($\beta = -0.15$, $p < 0.01$).

With three notable exceptions, these results were invariant across the sexes even when using the liberal method of Fisher's z to test for moderation. Using the Dirty Dozen measure, the correlation between psychopathy and ratings of the harmfulness of the responses in men

($r = 0.26$, $p < 0.01$) was larger (Fisher's $z = 2.34$, $p < 0.01$) than it was in women ($r = 0.03$). This pattern replicated in the Short Dark Triad with the correlation in men ($r = 0.23$, $p < 0.01$) being larger ($z = 2.52$, $p < 0.01$) than it was in women ($r = -0.02$). And last, there was a negative correlation between self-report creative ability and psychopathy in women ($r = -0.19$, $p < 0.05$) which was absent in men ($r = 0.01$; $z = 2.00$, $p < 0.01$).

We wanted to test whether the participants who were high on the Dark Triad traits might have rushed through the task, thereby undermining their apparent creativity. The time taken was negatively correlated with the Short Dark Triad measures of narcissism ($r(400) = -0.16$, $p < 0.05$), psychopathy ($r(400) = -0.21$, $p < 0.05$), and Machiavellianism ($r(400) = -0.10$, $p < 0.05$), but not when using the Dirty Dozen measures. After controlling for time, the correlation between psychopathy and number of responses found previously shrank but remained significant ($pr(400) = -0.11$, $p < 0.05$). Machiavellianism and narcissism and their associations with number of responses presented above were no longer significant. The other associations remained significant. All in all, impulsivity may not be the reason those high in psychopathy (or the other traits) appear uncreative.

And last, given that the number of responses could have biased the creativity scores offered by the raters (Silvia et al., 2008), we partialled variance associated with the number of responses and examined the correlations between the Dark Triad traits and the other-reported aspects of creativity. We found that psychopathy (DTDD $pr(400) = 0.17$, $p < 0.01$; SD3 $pr(400) = 0.23$, $p < 0.01$) and Machiavellianism (DTDD $pr(400) = 0.16$, $p < 0.01$; SD3 $pr(400) = 0.23$, $p < 0.01$) were correlated with harm-based creativity but not general creativity, suggesting the removal of this variance did not change the associations.

3. Discussion

As fields primarily concerned with socially desirable and undesirable aspects of psychology, individual differences in creativity and the Dark Triad traits (respectively), have only been assessed a limited number of times (Galang et al., 2016; Jonason, Richardson, & Potter, 2015; McKay et al., 2017) and tended to (1) rely on a single measure of the Dark Triad traits, (2) focus on domain-specific, self-reports of creativity, and (3) fail to consider or sufficiently measures potentially “darker” manifestations of creativity (Gino & Ariely, 2012; Walczyk et al., 2008). In this study, we have attempted to address these limitations and expand what is known about the manifestations of the Dark Triad traits in people's lives in the form of creative expression. While our results are similar to other studies assessing the associations between the Dark Triad traits and creativity, our study provides new details and, arguably, better tests than previously reported.

In this study, we have shown how individuals characterized by traits like narcissism, psychopathy, and Machiavellianism express their self-centered, boastful, and harmful nature through various assessments of creativity (i.e., objective, self-reported, other-rated creativity, and

Table 1
Correlations within and between measures of the Dark Triad traits and individual differences in creativity.

	1	2	3	4	5	6	7	8	9	10
1. Machiavellianism (DD)	–									
2. Psychopathy (DD)	0.58**	–								
3. Narcissism (DD)	0.46**	0.26**	–							
4. Machiavellianism (SD3)	0.64**	0.56**	0.41**	–						
5. Psychopathy (SD3)	0.51**	0.57**	0.39**	0.64**	–					
6. Narcissism (SD3)	0.30**	0.25**	0.42**	0.47**	0.45**	–				
7. Self-Reported Creativity	0.07	–0.04	0.23**	0.03	0.02	0.23**	–			
8. Other-Rated Creativity	–0.04	–0.05	0.01	–0.07	–0.14**	–0.13**	0.05	–		
9. Number of Responses	0.00	–0.09	0.02	–0.13*	–0.21**	–0.14**	0.12*	0.69**	–	
10. Other-Rated Harmfulness	0.15**	0.13**	0.07	0.16**	0.09	0.02	–0.07	0.27**	0.23**	–

Note. DD = Dirty Dozen; SD3 = Short Dark Triad.

* $p < 0.05$.

** $p < 0.01$.

other-rated harmfulness). First, we found that narcissists tend to think they are creative but other people (four raters) disagree (Foster et al., 2003; John & Robins, 1994). Second, Machiavellianism and psychopathy were correlated with how harm-based participant's responses were rated but narcissism was not. The nature of the objects provided in this study (e.g., paper clip) were rather innocuous yet those high in these traits appear to have a bias that may make them view these objects in a way that allows them to extract resources from the world and to even commit crimes (e.g., to pick a lock) where such correlations were stronger in men than in women for psychopathy in both measures of the Dark Triad traits. Third, psychopathy may suffer diminished creativity; an effect that remained even when controlling for time taken to complete the task. This suggests that the lack of creativity is unlikely to be a function of impulsivity or a characteristic tendency to rush. It may be that some other aspect or correlate of psychopathy is responsible for the lack of creativity in psychopathy. For example, it might merely be that they are just not interested in such tasks (Jonason, Wee, Li, & Jackson, 2014); a contention that needs further testing.

3.1. Limitations and Conclusions

Despite shedding light on the relationships between the Dark Triad traits and four measures of individual differences in creativity, this study has a number of limitations. First, while it is good that we used two measures of the Dark Triad traits, our results did not converge fully despite their substantial overlap (see Table 1), thereby necessitating more work that, ideally, includes the parent-measures of each trait. Second, we may have confined ourselves too narrowly in how we measured creativity. The Dark Triad traits enable people to be selfish across various domains and they may have unmeasured forms of creativity that enable the exploitation of others. Alternative tasks will need to be developed, perhaps, to address this limitation that is more interactive in nature and have more “incentives” attached to them. Third, we failed to examine the “gold-standard” scoring procedures used previously in the field of creative research (i.e., fluency, flexibility, and originality; Guilford, 1967) given some uncertainty about the validity of this framework (Mumford et al., 1998). We did approach fluency and originality with our count of responses and general, other-rated creativity, respectively. Importantly, we adopted the rather robust (see Amabile, 1982; Baer, Kaufman, & Gentile, 2004) Consensual Assessment Technique to converge on ratings of creativity. Fourth, the other-rated creativity had all raters evaluate the creativity of each participant whereas the harm-based creativity had raters only evaluate 1/4 of the total responses. Prior research suggests the latter might be superior to the former (Silvia et al., 2008), but our results do not reveal any bias in that regard when we controlled for the number of responses offered. Fifth, the adoption of the alternative uses task is just one conceptualization of creativity and future tests might adopt alternative assessments like the Torrance tests (Kim, 2006). Sixth, harm-based creativity might not really be a form of dark creativity and more a mere expression of the latent harmfulness in those high on Machiavellianism and psychopathy. If so, it merely shows, as we noted above, how dark personality traits manifest their nature in even tasks involving creative expression. Seventh, we have “bootstrapped” a method here to evaluate harm-based creativity, but future research should create more formal criteria for evaluating individual differences in this kind of creativity. Nevertheless, despite the limitations, this study is one of the very first to study the Dark Triad traits in relation to creative behavior as opposed to only self-reported creative outputs.

In summary, we have shown conceptual and methodological creativity in this study to understand how two apparently disparate aspects of personality are associated. This work, albeit exploratory, contributes to what is known about the Dark Triad traits and individual differences in creativity (e.g., Galang et al., 2016) with four measures of creativity and two measures of the Dark Triad traits. We contend that creativity is a downstream manifestation of the latent motivational biases in

each trait (Lee & Dow, 2011; Yoruk & Runco, 2014) and encourage future work to examine the various other implications of the biases found in the Dark Triad traits as they play out in various aspects of human life.

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