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The Dark Triad: Beyond a 'male' mating strategy

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ABSTRACT

The Dark Triad (DT; sub-clinical narcissism, Machiavellianism and psychopathy) is argued to facilitate a male short-term mating strategy. The trait constellation in women and its potential adaptive benefits has received less attention. We examined the prevalence and correlates of DT in a large community sample ($N = 899$). Despite finding expected sex differences in Sensation-seeking, Competitiveness, strength of sexual motivation, recreational sex behaviors and neuroticism, we found no sex difference in DT scores. Furthermore, within-sex multiple regressions identified the same predictors of DT score with similar weightings. Moderation analysis confirmed regression equations did not differ by sex. We propose that focus on DT as a male adaptation to short-term mating has been overstated and that men's greater preference for casual sexual encounters is not explained by DT traits.

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1. Introduction

Evolutionary psychologists have suggested that short-term mating strategies may be more adaptive for males than females. This view is based on the higher parental investment of females which constrains their reproductive output and that of monogamous partners. Polygynous males can attain high reproductive success by inseminating and abandoning multiple females. Polygynous male inclinations have been widely-documented (e.g. Schmitt et al., 2012). Women report a less promiscuous socio-sexual orientation, concordant with their lower fitness variance, obligate parental investment and short-term mating costs (Buss & Schmitt, 1993).

Not all men can successfully pursue polygyny, however. It is high-risk and competitive, requiring individuals to seize sexual opportunities while avoiding emotional engagement. It has been suggested that the Dark Triad (DT) personality (narcissism, Machiavellianism and psychopathy) is well-suited to this challenge (Jonason & Kavanagh, 2010; Jonason, Li, & Buss, 2010; Jonason, Valentine, Li, & Harbeson, 2011). DT is associated with promiscuity and desire for extra-pair sex. DT men report more lifetime sex partners and hold less restrictive socio-sexual attitudes (Jonason, Li, Webster, & Schmitt, 2009). DT personality is also attractive to women, independent of a man's physical appearance (Carter, Campbell, & Muncer, 2013). DT is associated with deceptive sexual tactics, including love-feigning (Jonason et al., 2009). It is

correlated with mate-poaching (Schmitt & Buss, 2001) and mate-abandonment (Jonason, Li, & Buss, 2010; Schmitt & Buss, 2001).

Recently, however, the view that short-term mating confers few benefits on women has been challenged. Short term mating can secure fertilization by men of high genetic quality (Smith, 1984). Extra-pair mating can provide an assessment of alternative mates' quality (Greiling & Buss, 2000) and increase the genetic diversity of offspring (Fossoy, Johnsen, & Lifjeld, 2008). Nevertheless, the alignment of DT with short-term strategies often considered more typical of men has resulted in less attention on the prevalence and correlates of DT in women. We address this in the present article. Research on DT has reported higher male scores for DT (e.g. Jonason & Webster, 2010). However, most studies use undergraduate samples (e.g. Jonason et al., 2009). The first aim of the present study is to examine the sex difference in a national sample.

Our second aim concerns correlates of DT in both sexes. In male and female undergraduates, correlations of similar magnitude have been reported between DT and measures assessing standards for long-term mates (Jonason et al., 2011), altruism (Jonason, Li, & Teicher, 2010) and specific social influence tactics (Jonason & Webster, 2010). Sex differences have been found in correlations with sexual tactics or game-playing love styles (Jonason & Buss, 2012; Jonason & Kavanagh, 2010), empathy (Jonason, Lyons, Bethell, & Ross, 2013), forms of impulsivity (Jones & Paulhus, 2011) and friendship choices (Jonason & Schmitt, 2012). However, in many studies, correlations are not disaggregated by sex so we have an incomplete understanding of whether DT correlates constitute different 'profiles' in men and women.

In the present study, we compare DT profiles of women and men across three major domains: mating style (Importance of

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Romance, Attachment, and Sex in relationships; Recreational Sexual Behaviors), lifestyle orientation (Sensation-seeking; Impulsivity; Competitiveness) and broader personality (Big Five). We have briefly reviewed evidence that, in men, DT is associated with short-term mating strategy markers. This strategy is thought to be mediated by lifestyle and personality characteristics that equip DT men with the psychological tools necessary for its execution. Below, we consider what is known about these correlates in relation to short-term mating and DT.

1.1. Lifestyle orientation

It is relatively well-documented that DT is associated with higher levels of Sensation-seeking (Emmons, 1991; McHoskey, Worzel, & Szyarto, 1998). High sensation-seekers (attracted to thrill in the face of possible risk) rate potential partners as more attractive and express a stronger desire to date them. They are more inclined to discount the likelihood that a short-term partner may have sexually-transmitted diseases and are more likely to engage in unprotected sex (Henderson et al., 2005). Furthermore, impulsivity (a tendency to act without consideration of long-term consequences) has been associated with short-term and risky sexual behaviors (e.g. Khurana et al., 2012). DT also shows association with self-control levels, future discounting, and dysfunctional impulsivity (Jonason & Tost, 2010; Jones & Paulhus, 2011).

The pursuit of short-term mating involves within-sex competition for mate access (Daly & Wilson, 1988). A recent study confirmed DT is correlated with the adoption of competitive, assertive, and dominating tactics (Jonason et al., 2011). Forms of social influence can be dichotomized into 'hard' (threatening, manipulating) and 'soft' (charming, ingratiating) tactics. DT is associated with both, but more closely with the former. In a money-allocation task, DT participants were characterized by competitiveness, rather than prosociality or individualism (Jonason, Li, & Teicher, 2010).

1.2. Personality

Relationships between DT and Big Five personality constructs have been well-documented. The most robust finding is the negative correlation between DT and agreeableness (Paulhus & Williams, 2002; Vernon, Villani, Vickers, & Harris, 2008; Veselka, Schermer, & Vernon, 2012). DT (Jonason, Li, & Teicher, 2010), psychopathy (Paulhus & Williams, 2002) and narcissism (Lee & Ashton, 2005; Vernon et al., 2008; Veselka et al., 2012) correlate positively with extraversion. This combination of high extraversion and low agreeableness has been proposed to facilitate a short-term mating style (Jonason et al., 2009). Openness correlates positively with DT (Jonason, Li, & Teicher, 2010), narcissism and psychopathy (Paulhus & Williams, 2002), whilst conscientiousness correlates negatively with DT (Jonason, Li, & Teicher, 2010) Machiavellianism (Lee & Ashton, 2005), psychopathy (Jakobwitz & Egan, 2006; Paulhus & Williams, 2002; Vernon et al., 2008; Veselka et al., 2012) and narcissism (Jakobwitz & Egan, 2006). Finally, neuroticism correlates negatively with DT composite (Jonason, Li, & Teicher, 2010) and psychopathy (Paulhus & Williams, 2002), but positively with Machiavellianism (Jakobwitz & Egan, 2006; Vernon et al., 2008; Veselka et al., 2012).

Although the constellation of attitudes, behaviors and traits associated with DT individuals seems characteristic of men and 'male' mating strategies, women scoring highly for DT do exist. The aims of the current study are (1) to examine sex differences in DT in a large national sample, and (2) determine whether correlates of DT personality (mating style, lifestyle orientation, and Big 5 traits) differ by sex.

2. Method

2.1. Participants

One thousand and three participants were recruited via a marketing company to participate in an online questionnaire. After dropping non-heterosexual participants (this study being focused on heterosexual mating attitudes and behaviors), 899 heterosexual respondents remained. The final sample consisted of 440 females and 459 males, aged 25–55 (mean = 39.5 years).

2.2. Materials

2.2.1. The Dirty Dozen

The Dirty Dozen (DD) is a twelve-item questionnaire that creates an overall DT score (Jonason & Webster, 2010). Participants indicate agreement with statements including 'I have used deceit or lied to get my way'. The inventory contains three four-item sub-scales pertaining to each of narcissism, Machiavellianism, and psychopathy. The DD has proven reliable, considering its brevity, and had good internal consistency in the present study ($\alpha = .75$).

2.2.2. BFI-10 personality inventory (BFI-10)

The BFI-10 (Rammstedt & John, 2007) is a concise measure used to assess the Big 5 with two items pertaining to each of Extraversion, Openness, Conscientiousness and Neuroticism. Following the authors' recommendation, we used a third item to assess Agreeableness given its relevance to DT. Participants rate how accurately each descriptor captures their personality. It has been found valid and reliable (Thalmayer, Saucier, & Eignhuis, 2011).

2.2.3. Impulsivity and Sensation-Seeking (ImpSS)

The 19-item ImpSS scale from the Zuckerman-Kuhlman Personality Questionnaire (Zuckerman & Kuhlman, 1993) was used. Participants answered 'false' or 'true' to statements such as "I usually think about what I am going to do before I do it" (Impulsivity) and "I'll try anything once" (Sensation-seeking). Two separate scales were constructed since Impulsivity and Sensation-seeking have been found to be independent dimensions (Cross, Copping, & Campbell, 2011). (Alpha values: $\alpha = .72$ (Impulsivity) and $\alpha = .82$ (Sensation-seeking)).

2.2.4. Competitiveness

Six items were taken from the Hyper-Competitive Attitude Scale (Ryckman, Hammer, Kaczor, & Gold, 1990). This scale ($\alpha = .66$) included items such as "Winning in competitions makes me feel more powerful as a person".

2.2.5. Attitudes towards Romance, Attachment and Sex

Fifteen questions assessing Romance, Attachment, and Sex attitudes were put to participants, who were asked to answer with reference to their current intimate relationship (or a previous one if single). For Romance, five items pertained to thoughts about their partner and desire for union with them ($\alpha = .71$). For Attachment, six items pertained to giving and receiving emotional support ($\alpha = .85$). Sexual attitudes were dichotomized into two items assessing frequency and strength of their sexual desire for their partner (Sexual Desire (Partner), $\alpha = .60$), and two assessing frequency and strength of sexual desire for members of the opposite sex other than their partner (Sexual Desire (Others), $\alpha = .70$).

2.2.6. Recreational Sexual Behavior

The Laddish Behavior Inventory (Muncer & Campbell, 2012) is designed to assess exhibitionistic and boisterous behavior typically

Table 1
Means and standard deviations by sex for all variables.

Domain	Measure	Women	Men	<i>F</i>	<i>d</i>
Dark Triad		3.72 (2.55)	4.03 (2.50)	3.41	0.12
Lifestyle	Impulsivity	2.37 (2.13)	2.30 (2.00)	0.23	0.03
	Sensation-seeking	5.08 (3.27)	5.93 (3.09)	16.07***	0.27
	Competitiveness	2.70 (0.62)	2.90 (0.64)	22.99***	0.32
Mating strategy	Romance	3.58 (0.70)	3.66 (0.69)	2.61	−0.12
	Attachment	4.19 (0.69)	4.22 (0.62)	0.49	−0.05
	Sexual Desire (Partner)	4.06 (1.29)	4.51 (1.14)	27.58***	0.37
	Sexual Desire (Others)	2.12 (1.40)	3.36 (1.59)	138.70***	0.83
	Recreational Sexual Behavior	2.53 (1.89)	3.19 (1.99)	26.68***	0.34
Personality	Neuroticism	6.16 (1.83)	5.71 (1.84)	13.58***	−0.25
	Extraversion	5.98 (1.82)	5.78 (1.81)	2.78	−0.11
	Openness	7.24 (1.63)	7.31 (1.61)	0.35	0.04
	Agreeableness	10.94 (1.88)	10.88 (1.76)	0.25	−0.03
	Conscientiousness	7.69 (1.56)	7.37 (1.51)	9.66**	−0.21

*** $p < .001$.

** $p < .01$.

associated with ‘laddish’ culture. For the current study, eight items pertaining to sexual behavior were used. The items included: “I prefer sex to romance” and “I have cheated on a boyfriend/girlfriend” (full list available on request). This measure, too, had good internal consistency ($\alpha = .76$).

2.3. Procedure

Participants were asked to provide their sex, age, and sexual orientation. They then completed the ‘Dirty Dozen’, BFI-10 personality inventory, ZKPQ Impulsive Sensation-Seeking scale, Romance, Attachment and Sex scales, Competitiveness scale and Laddish Sexual Behavior Inventory.¹

3. Results

To examine sex differences, we used MANOVA with sex as the independent variable and 14 scale scores as dependent variables. The multivariate effect of sex was significant, $F(13,742) = 14.75$, $p < .001$. Univariate descriptive statistics and tests are presented in Table 1. Strikingly, the sex difference in DT was not significant, although men scored marginally higher than women, $d = 0.12$. Because previous studies have used younger samples, we examined the sex difference for DT in those respondents aged 30 or under ($n = 188$). The result was non-significant, $F(1,186) = 0.01$, $p = .91$. The bulk of the remaining sex differences replicated those reported by others. Women scored higher than men on Neuroticism ($d = -0.25$) and Conscientiousness ($d = -0.21$), whilst men scored higher on Competitiveness ($d = 0.32$) and Sensation-seeking ($d = 0.27$), with moderate effect sizes. No sex differences were found for Impulsivity ($d = 0.03$). The largest effect size was for Sexual Desire Others ($d = 0.83$) and there was a significant though less extreme sex difference for Recreational Sexual Behaviors ($d = 0.34$). Regarding intimate relationships, men scored significantly higher than women on Sexual Desire (Partner) ($d = 0.37$), although men and women did not differ in feelings of Romance ($d = -0.12$) or Attachment ($d = -0.05$) toward partners.

We then examined correlations between DT and mating style, lifestyle orientation and personality variables as a function of sex (Table 2). The pattern was remarkably consistent across sex. In neither sex was DT associated with partner-directed Romance, Attachment or Sexual Desire. However, in both sexes, DT was positively and significantly correlated with the extra-partner

Table 2
Correlations between Dark Triad and all variables by sex.

Domain	Measure	Women	Men
Mating style	Romance	.06	.01
	Attachment	−.08	−.05
	Sexual Desire (Partner)	.06	.05
	Sexual Desire (Others)	.23***	.15***
Lifestyle orientation	Recreational Sexual Behavior	.48***	.37***
	Competitiveness	.41***	.39***
	Sensation-seeking	.32***	.29***
	Impulsivity	.31***	.30***
Personality	Neuroticism	−.04	−.06
	Extraversion	.17***	.17***
	Openness	.07	.08
	Agreeableness	−.31***	−.30***
	Conscientiousness	−.13***	−.07

*** $p < .001$.

variables: Sexual Desire Others and Recreational Sexual Behaviors. In both sexes, DT correlated positively with all three measures of lifestyle orientation: Impulsivity, Sensation-seeking, and Competitiveness. With regard to the Big Five, DT was associated positively with Extraversion and negatively with Agreeableness in both sexes. For women only, DT was negatively correlated with Conscientiousness. These results are broadly in keeping with existing literature on DT and its relationship with other personality constructs.

The similarity between the sexes in the direction and magnitude of correlations was marked, and suggested DT has similar predictors in the two sexes. Nonetheless, given the possibility of different inter-correlations between variables in men and women, we performed regression analyses separately.

Because age was weakly correlated with DT ($r = -.07$, $p = .04$), we controlled for age in the regression analyses by entering it in the first step, followed by all predictor variables in step two. (A regression in which age was not controlled resulted in the same set of significant predictors.) Results are presented in Table 3. The final models explained 41 percent of the variance in women and 35 percent in men. Results were extremely similar: In both sexes, DT was associated with greater Impulsivity, Competitiveness, and Recreational Sexual Behavior, and with lower levels of Agreeableness. These four variables were the only significant predictors in both sexes. We therefore conducted a moderation analysis to confirm respondent sex did not moderate the relationship between the predictors and DT (Frazier, Tix, & Baron, 2004). To do this, we added sex-by-variable interaction terms in the final step of a hierarchical regression. The addition of interaction terms

¹ The design and analyses of this study conform to the recommendations of Simmons, Nelson, and Simonsohn (2011).

Table 3
Multiple regression of all variables on Dark Triad score by sex controlling for age.

Variable	Women			Men		
	B	SE B	β	B	SE B	β
<i>Step 1</i>						
Age	-.03	.02	-.10	-.02	.02	.06
<i>Step 2</i>						
Age	.03	.01	.09	.02	.01	.06
Recreational Sexual Behavior	.45	.07	.32***	.31	.07	.25***
Competitiveness	1.25	.18	.31***	.99	.17	.26***
Agreeableness	-.28	.06	-.20***	-.39	.07	-.28***
Impulsivity	.16	.06	.13**	.14	.06	.11**
Romance	.21	.21	.06	.33	.20	.09
Attachment	-.12	.21	-.03	-.11	.22	-.03
Openness	.05	.07	.04	.07	.07	.05
Sensation-seeking	.04	.05	.05	.07	.05	.08
Sexual Desire (Others)	.01	.09	.01	-.07	.08	-.04
Sexual Desire (Partner)	-.03	.10	-.01	-.10	.10	-.05
Neuroticism	.00	.07	.00	-.02	.06	-.01
Conscientiousness	.00	.08	.00	-.12	.08	-.07
Extraversion	.01	.07	.01	.10	.07	.07
R ² Step 1	.01			.00		
R ² Step 2	.41			.35		
F full model	17.22***			14.61***		

** $p < .05$.

*** $p < .001$.

did not improve the model, $\Delta R^2 = .003$, $p = .36$, confirming men's and women's models did not differ. Evidence of moderation by sex was absent for Impulsivity $\beta = .01$, $t = .24$, $p = .81$; Competitiveness $\beta = -.01$, $t = -.35$, $p = .73$; Agreeableness $\beta = -0.08$, $t = -1.06$, $p = .29$), and Recreational Sexual Behavior $\beta = -.13$, $t = -1.75$, $p = .08$.

In previous work (Jonason et al., 2009), DT has been found to partially mediate sex differences in short-term mating strategy. Although we found sex differences in Sexual Desire Others and Recreational Sexual Behavior, DT was not tested as a mediator because the requirement of a significant correlation between the independent variable (gender) and mediator (DT score) was not met.

4. Discussion

Our data demonstrate that (1) in a large national sample, there is no significant sex difference in DT personality and (2) the correlates of DT personality are nearly identical in the two sexes. We consider these in turn.

In the main, our pattern of sex differences replicated those previously reported. Men scored higher than women on Sensation-seeking and Competitiveness, and showed stronger sexual motivation, reflected in stronger Sexual Desire (for Partner and Others), as well as Recreational Sexual Behavior. We found no sex difference in Impulsivity in line with a recent meta-analysis suggesting Impulsivity and Sensation-seeking are conceptually and empirically distinct, with sex differences confined to the latter (Cross et al., 2011). Women scored higher than men on Neuroticism and Conscientiousness. Despite this replication of established sex differences over a range of measures, we found no significant sex difference in DT scores. Given our large sample, with ample power (85%) to detect even a small effect size ($d = .20$), the absence of a sex difference merits consideration. Many previous studies have used undergraduate samples. Younger age is associated with a riskier lifestyle, particularly among men. This has been dubbed 'Young Male Syndrome' (Wilson & Daly, 1985). To the extent that DT is correlated with (or is a manifestation of) that syndrome,

sex differences might be expected to be most apparent at younger ages. However, when we restricted our analysis to respondents aged 30 or younger, there was no evidence of a sex difference. Nevertheless, we acknowledge that our youngest participant was aged 25, compared with average ages between 21 and 24 in previous DT studies (Jonason & Tost, 2010; Jonason et al., 2009). College students differ from the general population not only in age, but on a range of measures including individualism and internal locus of control (Henrich, Heine, & Norenzayan, 2010). Despite this, they account for two-thirds of participants used in psychological studies in the United States. As noted (Jonason & Buss, 2012), studies of DT in relation to demographic indicators such as gender require large community samples, preferably with a wide age range, for valid generalizations.

In men and women, DT personality was associated with lower Agreeableness, greater Extraversion and a more Competitive, Sensation-seeking and Impulsive lifestyle. Although DT was not correlated with intra-relationship variables (Romance, Attachment and Sexual Desire (Partner)), it was positively correlated with extra-relationship variables (Sexual Desire (Others) and Recreational Sexual Behavior). This suggests the main impact of DT on mating strategy is on casual sexual adventures. Indeed, for both sexes, correlations between DT and Recreational Sexual Behavior were among the highest of all. Individuals high on DT do not lack feelings of romance and attachment toward their partners, but they retain a lively interest in extra-pair sexual possibilities. This 'lust for life' (or 'life of lust') is also manifest in a willingness to act spontaneously and seize opportunities (Impulsivity), to value excitement even when risky (Sensation-seeking), to enjoy social stimulation and interaction (Extraversion), and to embrace interpersonal rivalry (Competitiveness). These motivations sit against a backdrop of low Agreeableness, with a premium on personal satisfaction at the expense of trustworthiness, modesty and compliance. This personality is congruent with a 'fast' life history strategy prioritizing immediate gratification, of which short-term mating is one manifestation (Jonason & Tost, 2010).

Multiple regression analyses for men and women identified the same predictors of DT score with similar weightings, and this was confirmed by moderation analysis. A high degree of similarity between the sexes has been found in previous studies where participants have been disaggregated by sex (Jonason & Buss, 2012; Jonason, Li, & Buss 2010; Jonason & Tost, 2010; Paulhus & Williams, 2002). Indeed, an absence of moderation by sex has been explicitly noted in studies of DT and mating strategy (Jonason & Buss 2012; Jonason et al., 2011). Despite this, researchers have emphasized DT personality constellation as especially relevant to men's mating strategy (Jonason et al., 2009). For example, Jonason, Webster, Schmitt, Li, and Crysel (2012) characterize male 'antiheros' of popular culture (such as James Bond) as classic examples of DT personality. In explaining the apparent paucity of female antiheros, they suggest "fast life strategies in women are simply manifested through different indicators than for men" (Jonason et al., 2012, p. 197).

In our data, the absence of significant sex differences in DT and its correlates suggests DT may facilitate a short term-mating strategy in much the same way for women as for men. Evolutionary psychology increasingly recognizes strategic pluralism in both sexes (e.g. Schmitt et al., 2012; Thornhill & Gangestad, 2008). Traditional assumptions about sex roles in relation to mating strategies are being challenged: Aspects of the Bateman principles have been questioned empirically (Gowaty, Kim, & Anderson, 2012) and theoretically (Kokko & Jennions, 2008). Multiple mating can bring a range of advantages to females by improving offspring quality, increasing genetic diversity, and exploiting male resources in the short term (Jennions & Petrie, 2000). Women's willingness to engage in short-term relationships may be a form of intrasexual competition whereby sex is used to undercut the competition:

Offering 'cheaper' sex, women can gain (temporary) access to highly-desirable mates, with the prospect of retaining some over a longer term (Baumeister & Vohs, 2004). Furthermore, women's adoption of a short-term strategy is supported by contemporary cultural shifts, including rejection of sexual 'double standards' and support for gender equality in private and public spheres.

Notwithstanding the positive association with DT, women in our study were less likely to engage in Recreational Sexual Behavior than men and showed less marked desires for sex beyond current relationships. This is convergent with research showing women's lesser willingness to engage in uncommitted, casual and short-term sex (e.g. Schmitt et al., 2012). DT has been offered as an explanation of this sex difference in mating preferences, yet our data indicate no sex difference in DT or its personality and lifestyle correlates. Although DT explained a significant percentage of the variance in Recreational Sexual Behavior and Sexual Desire (Others) in both sexes, it did not explain the sex difference *per se*. In a previous study in which a sex difference in DT was found (Jonason et al., 2009), DT only partially mediated the relationship between gender and mating strategy; the residual effect of gender remained significant. The most likely candidate linking gender to preferred mating strategy is the marked universal sex difference in sexual drive, including men's greater desire for sexual variety, willingness to engage in sex after minimal acquaintance and higher preferred rate of intercourse. Our data do not suggest DT traits predispose men more strongly than women to a desire for sexual variety.

Overall, our findings add to calls for the use of larger and more representative samples if we are to develop a fuller understanding of DT. Moreover, the tendency to focus on DT as facilitating a 'male' sexual strategy should be reconsidered. Future work could usefully consider manifestations of the Dark Triad in women and give greater consideration to the benefits of DT personality beyond the domain of mating strategies.

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