



## Looking under the hood: The psychogenic motivational foundations of the Dark Triad☆☆☆



Peter K. Jonason<sup>a,\*</sup>, Jason D. Ferrell<sup>b</sup>

<sup>a</sup> Western Sydney University

<sup>b</sup> University of Texas at Austin

### ARTICLE INFO

#### Article history:

Received 17 December 2015

Received in revised form 21 January 2016

Accepted 23 January 2016

Available online xxxx

#### Keywords:

Narcissism

Psychopathy

Machiavellianism

Motivation

Evolutionary Psychology

### ABSTRACT

The Dark Triad traits (i.e., psychopathy, narcissism, & Machiavellianism) have become a popular topic in personality psychology and in the media and may have important evolutionary significance. To provide new insight into the Dark Triad traits, we present four studies ( $N = 2506$ ) with two measures of the Dark Triad traits, in two volunteer, one mTurk, and one American undergraduate sample using three frameworks of individual differences in psychogenic motives (i.e., achievement, power, and affiliation). Although results were not fully robust to method and sampling variance, all three traits were associated with motivations towards trying to be dominant and powerful, but only narcissism was motivated by affiliation or intimacy needs. Sex differences in the Dark Triad traits were often accounted for by individual differences in the intimacy and power motives. The Discussion highlights the utility of evolutionary models to improve our understanding of the motivational systems “under the hood” of those characterized by the Dark Triad traits.

© 2016 Elsevier Ltd. All rights reserved.

Traditionally the Dark Triad traits (i.e., psychopathy, narcissism, and Machiavellianism) have been considered socially undesirable and maladaptive in people's lives (Paulhus & Williams, 2002). The traits are characterized by vanity and self-centeredness (i.e., narcissism), manipulation and cynicism (i.e., Machiavellianism), and callous social attitudes and amorality (i.e., psychopathy). The traits have implications for organizational psychology (Spain, Harms, & Leberton, 2014), social psychology (Hodson, Hogg, & MacInnis, 2009), and health (Jonason, Baughman, Carter, & Parker, 2015). Most research on them is characterized by psychopathological assumptions and clinical methods and samples (Cleckley, 1976; Hare, 1985). For example, these traits predict variance in community, online, and college-student samples in risk-taking (Crysel, Crosier, & Webster, 2013; Jonason, Koenig, & Tost, 2010), impulsivity, limited self-control, and ADHD symptoms (Jones & Paulhus, 2011; Jonason & Tost, 2010), limited empathy and alexithymia (Giammarco & Vernon, 2014; Jonason & Krause, 2013; Wai & Tiliopoulos, 2012), heightened competitiveness (Carter, Campbell, &

Muncer, 2014), and “risky” sexuality (Adams, Luévano, & Jonason, 2014; Jonason, Li, Webster, & Schmitt, 2009).

However, in the last decade there has been a surge of research on these traits because they have begun to be examined in subclinical samples using the methods of personality and evolutionary psychology (Jonason, Webster, Schmitt, Li, & Crysel, 2012). Such work suggests that despite the socially undesirable nature of these traits, they may have serious adaptive consequences in the form of mating (Jonason et al., 2009) and the extraction of resources from one's socioecology (Jonason & Webster, 2012). To date, three main questions predominate this burgeoning research on the Dark Triad traits: (a) how best to measure them (e.g., Jones & Paulhus, 2014; Küfner, Dufner, & Back, 2015), (b) what do the traits predict (e.g., Jonason & Webster, 2012; Jones, 2013), and (c) what is causally behind them (e.g., Jonason, Lyons, Bethell, & Ross, 2013; Jones & Figueredo, 2013). In the current study, we provide new insight into the third question by viewing them through a motivational psychology lens.

According to psychologists who study motivations, there may be three innate and universal psychological motivations (Deci & Ryan, 2000; Sheldon, 2004; Vansteenkiste & Ryan, 2013). These motivations are (a) *competence* or the perceived effectiveness and sense of confidence with environmental interactions; the universal desire to feel like one can control the outcomes in their lives (Deci, 1975; White, 1959), (b) *autonomy* or the perceived choice and sense of internal source of behavior; a universal urge to act as the author of one's destiny and in harmony with one's self-image but not to be separate from others (deCharms, 1968; Deci & Ryan, 1985), and (c) *relatedness* or the perceived connection with people and sense of

\* The authors thank Samuel D. Gosling and James W. Pennebaker for feedback on this project and James P. Middleton and Jasper J. Duineveld for their work as research assistants in Study 3. Results were presented at the 2014 European Conference on Personality.

☆☆ Preparation of this manuscript was aided by funding from the Army Research Institute (W5J9CQ12C0043). The views, opinions, and/or findings contained in this report are those of the authors, and shall not be construed as official Department of the Army position, policy, or decision, unless so designated by other documents.

\* Corresponding author at: School of Social Sciences and Psychology, Western Sydney University, Milperra, NSW, 2214, Australia.

E-mail addresses: [p.jonason@uws.edu.au](mailto:p.jonason@uws.edu.au), [p.jonason@westernsydney.edu.au](mailto:p.jonason@westernsydney.edu.au) (P.K. Jonason).

social belongingness; the universal desire to engage in social interactions, to feel socially connected, and to care for others (Baumeister & Leary, 1995; Bowlby, 1979). These motivations may act as fundamental aspects of psychology that should exert downward (albeit indirect and weak; Bernard, 2010; Elliot & Thrash, 2001; McHoskey, 1999) influence on personality and individual differences like the Dark Triad traits.

We propose a hierarchical system of individual differences where motivational foundations lay above individual differences in theoretical space and it is individual differences in these motivations that partially account for individual differences in personality traits like the Dark Triad. We conceive of personality traits as descriptive, mid-level traits to account for systematic biases in motivational, cognitive, and affective systems. Indeed, work on attachment systems (i.e., need for intimacy) has relevance in all primates (and likely all mammals) and dysfunctions in those systems result in the very antisocial behaviors we associate with the Dark Triad traits (see Bowlby, 1979; Harlow & Zimmermann, 1958). In addition, we would argue that selection pressures have not acted on personality traits themselves, but, instead individual differences in motivational, cognitive, and affective systems. By examining the relationship between motivations and the Dark Triad traits, we offer hitherto unknown detail about the motivational foundations of these socially undesirable-but-potentially adaptive suite of individual differences (Jonason, Webster et al., 2012; Jonason et al., 2009). Linking individual differences in motivations to the Dark Triad traits is important because both approaches postulate motivational explanations for social behavior in its pathological form or not (McClelland, 1985; McClelland, Koestner, & Weinberger, 1989).

## 1. Current project

There are reasons to expect the Dark Triad traits to be associated with motivational processes. At least two studies have examined motivational systems associated with some (but not all) of the Dark Triad traits (Elliot & Thrash, 2001; McHoskey, 1999). For instance, psychopathy is characterized by disagreeableness and dishonesty, diminished health, antisocial social strategies, and compromised morality whereas narcissism is associated with relatively prosocial values and moral systems and improved health outcomes (Lee & Ashton, 2005; Jonason, Baughman et al., 2015; Jonason, Strosser, Kroll, Duineveld, & Baruffi, 2015). This might translate into different associations between psychopathy and narcissism in reference to fundamental motives. Said another way, individual differences in these fundamental motives may be the distal predictors of the various outcomes associated with the Dark Triad traits and reveal differences and similarities among the traits.

Theoretically speaking, linking motivational systems to the Dark Triad traits is important because we view many behaviors to be the result of internal motivations. If we treat the Dark Triad traits as behavioral regularities and attitudinal biases, we expect motivations to underlie these as antecedent conditions. While this might contrast with motives research that treats motives as mediators/moderators or experiential outcomes (e.g., Cooper, Agocha, & Sheldon, 2000; Sheldon, Abad, & Hinsch, 2011) we see personality traits being composed of a multitude of primitive (in the evolutionary sense) moral, cognitive, physical, hormonal, and neurological systems. One of those underlying systems might be latent and evolved differences in motivational processes. From an evolutionary, functional perspective (Buss, 1991, 2009; Confer et al., 2010), the needs of competence, autonomy, and relatedness might have evolved to provide an adaptive advantage in a heavily social world,<sup>1</sup> and can motivate behaviors that provide psychological well-being through integration of intrapersonal and interpersonal processes (Baumeister & Leary, 1995; Bernard, Mills, Swenson, & Walsh, 2005; Ryan, 1995; Sheldon & Gunz, 2009). If we are correct, personality traits are the phenotypic expressions of the

average or interaction of various underlying systems. What researchers call “personality traits” might be descriptions of these recurrent patterns within people.

Considerable insights have been gleaned about the Dark Triad traits using Life History Theory (McDonald, Donnellan, & Navarrete, 2012; Mealey, 1995), Social Exchange Theory (O’Boyle, Forsyth, Banks, & McDaniel, 2012; Spain et al., 2014), the selection-evocation-manipulation paradigm (Jonason & Schmitt, 2012; Jonason, Valentine, Li, & Harbeson, 2011), traditional personality psychology (Jakobwitz & Egan, 2006; Kavanagh, Signal, & Taylor, 2013), and behavioral genetics (Petrides, Vernon, Schermer, & Veselka, 2011; Vernon, Villani, Vickers, & Harris, 2008). By adopting alternative theoretical “hats” we might learn more detail about the Dark Triad traits by adopting the methods and measures of that paradigm. In a series of studies, we provide the first large-scale analysis of the motivational foundations associated with the Dark Triad traits.

We make a number of general predictions.<sup>2</sup> We expect psychopathy to be negatively correlated with motivations to connect to others given its antisociality (Cleckley, 1976; Hare, 1985; Harpur, Hare, & Hakstian, 1989; Levenson, Kiehl, & Fitzpatrick, 1995) and to be positively correlated with the power motive given its dominance-striving (Semenya & Honey, 2015). We expect narcissism to be associated with a need for power and achievement given its core of leadership, dominance, and authority and need for affiliation as a means to feed their ego needs for admiration (Campbell, Brunell, & Finkel, 2006; Lee et al., 2013; Raskin & Terry, 1988). And last, we expect Machiavellianism to resemble psychopathy in antisociality given the high correlation between the two (Lee & Ashton, 2005; Paulhus & Williams, 2002) but to also be associated with motivational systems related to power and achievement given the apparent desire for power located within the trait (Christie & Geis, 1970; Machiavelli, 1532/2004; Semena & Honey, 2015). In so doing, we hope to highlight the commonality (with zero-order correlations) and the unique features of the Dark Triad traits (with regression coefficients).

In addition, we expect to replicate sex differences in the Dark Triad traits (Jonason, Li, & Czarna, 2013) and motivational foundations (Bernard, 2010). Men tend to score higher than women do on the Dark Triad traits and women score higher than men do on need for intimacy/affiliation. However, if individual differences in motivational foundations are associated with the Dark Triad traits then it is possible that sex differences in the Dark Triad traits are confounded by individual differences in the motivational systems. Just as individual differences in empathy appear to mediate sex differences in the Dark Triad traits (Jonason, Lyons et al., 2013), we tested for confounding mediation. For example, sex differences in psychopathy might be a function of individual differences (and selection pressures) in men (and males) that undermine intimacy and affiliation and intimacy motives; such motives may undermine various aggressive, competitive, and opportunistic tasks that men benefit more from (evolutionarily speaking) than women can. If one conceptualizing motivations as the underlying systems that account for individual differences in personality and that selection pressures will act on these motivational systems, such a hypothesis seems reasonable.

## 2. Study 1

We begin with a general and basic assessment of the motivational foundations associated with the Dark Triad traits. We assess the Dark Triad traits in relation to the three basic psychogenic motives: competence, autonomy, and relatedness. We replicate sex differences and test whether motivational foundations can account for some of the sex differences in the Dark Triad traits.

<sup>2</sup> Given the wide net we cast in this study to measure motives and the Dark Triad traits, we avoid making specific predictions and focus on thematic predictions.

<sup>1</sup> The primary niche of humans may be social in nature.

## 2.1. Method

### 2.1.1. Participants and procedure

Undergraduate students ( $N = 1389$ ; 67% female; 18–50 years old;  $M_{age} = 18.88$ ,  $SD = 2.15$ ) from the University of Texas at Austin participated in this study as part of their Fall 2012 introductory psychology course. In their course, participation (online) occurred in the context of an exercise that was designed to highlight personality variation as it relates to different outcomes like performance in the course and to provide feedback about their personality and other psychological constructs.

### 2.1.2. Measures

The Dark Triad Dirty Dozen was used to measure the Dark Triad traits (Jonason & Webster, 2010). Participants were asked how much they agreed (1 = *not at all*; 5 = *very much*) with statements such as: “I tend to want others to admire me” (i.e., narcissism), “I tend to lack remorse” (i.e., psychopathy), and “I have used deceit or lied to get my way” (i.e., Machiavellianism). Items were averaged together to create indexes of narcissism (Cronbach's  $\alpha = .74$ ), Machiavellianism ( $\alpha = .70$ ), and psychopathy ( $\alpha = .71$ ).<sup>3</sup>

The 18-item Balanced Measure of Psychological Needs was used to measure motives (Sheldon & Hilpert, 2012). Participants were asked to think how true each statement is “generally, in your life.” (1 = *no agreement*; 5 = *much agreement*). Factors are each composed of three items measuring satisfaction and three items (reversed) measuring dissatisfaction that measure Satisfaction in Need for Competence (e.g., “I do well even at the hard things.”), Satisfaction in Need for Autonomy (e.g., “I am free to do things my own way.”), and Satisfaction in Need for Relatedness (e.g., “I feel close and connected with other people who are important to me.”). Items were averaged to create indexes of Satisfaction in Need for Competence ( $\alpha = .73$ ), Satisfaction in Need for Autonomy ( $\alpha = .57$ ), and Satisfaction in Need for Relatedness ( $\alpha = .68$ ).

## 2.2. Results and discussion

In Table 1 (first panel) we present the links between the Dark Triad and individual difference in motivations in both their zero-order and standardized regression (to account for shared variance in the traits) forms. Psychopathy was negatively correlated with Satisfaction in Needs for Competence, Autonomy, and Relatedness. Machiavellianism was negatively correlated with Satisfaction in Needs for Competence, Autonomy, and Relatedness which dropped out in regression analyses for Relatedness only. Narcissism was negatively correlated with Satisfaction in Need for Autonomy, but this dropped out in regression analysis.

Men scored higher than women did on psychopathy ( $t(1135) = 8.75$ ,  $p < .01$ , Cohen's  $d = 0.52$ ), narcissism ( $t(1130) = 4.52$ ,  $p < .01$ ,  $d = 0.27$ ), Machiavellianism ( $t(1137) = 3.30$ ,  $p < .01$ ,  $d = 0.20$ ), and Satisfaction in Need for Competence ( $t(1175) = 3.25$ ,  $p < .01$ ,  $d = 0.19$ ). Women scored higher than men did on the Satisfaction in Need for Relatedness ( $t(1175) = -5.74$ ,  $p < .01$ ,  $d = -0.34$ ). We have omitted the descriptive statistics for the sex differences tests for reportorial economy here and throughout. These details are available upon request.

Therefore, we tested whether the explicit motives mediated sex differences in the Dark Triad where relevant, using both Sobel's test and  $\Delta R^2$  as lower-bound (conservative) and upper-bound (liberal) tests. Satisfaction in Need for Relatedness partially mediated sex differences in psychopathy ( $z = 7.23$ ,  $p < .01$ ;  $\Delta R^2 = .08$ ,  $F(1, 1087) = 100.61$ ,  $p < .01$ ) such that the direct effect  $-.24$  ( $p < .01$ ) shrank  $-.19$  ( $p < .01$ ).

<sup>3</sup> Machiavellianism was correlated with psychopathy ( $r(1215) = .38$ ,  $p < .01$ ) and narcissism ( $r(1210) = .39$ ,  $p < .01$ ). Narcissism was correlated with psychopathy ( $r(1211) = .13$ ,  $p < .01$ ).

**Table 1**

The motivations associated with the Dark Triad traits across four studies.

	$r$ ( $\beta$ )		
	Study 1 ( $N = 1389$ )		
	Machiavellianism	Psychopathy	Narcissism
Competence (S)	-.08** (-.08**)	-.08** (-.07*)	.03 (.06*)
Autonomy (S)	-.17** (-.14**)	-.13** (.08**)	-.09** (-.03)
Relatedness (S)	-.16** (-.05)	-.32** (-.31**)	-.05 (.02)
Study 2 ( $N = 543$ )			
Competence (S)	-.18** (-.18**)	-.12** (-.06)	-.05 (.06)
Competence (D)	.32** (.15**)	.27** (.13**)	.03** (.19**)
Autonomy (S)	-.24** (-.18**)	-.18** (-.06)	-.17** (-.06)
Autonomy (D)	.29** (.17**)	.21** (.05)	.30** (.20**)
Relatedness (S)	-.22** (-.10*)	-.30** (-.26**)	-.09* (.05)
Relatedness (D)	.35** (.14**)	.34** (.18**)	.36** (.23**)
Study 3 ( $N = 320$ )			
Intimacy	-.10 (.03)	-.31** (-.38**)	.06 (.17*)
Affiliation	-.12* (-.14)	-.30** (-.22**)	.09 (.26**)
Achievement	-.15** (-.03)	-.24** (-.23**)	-.05 (.05)
Power	.13* (-.07)	.02 (-.09)	.33** (.40**)
Diversion	-.03 (-.08)	-.13* (-.17*)	.13* (.24**)
Study 4 ( $N = 255$ )			
Achievement (H)	-.09 (-.17*)	.04 (-.07)	.30** (.38**)
Achievement (F)	-.16* (-.06)	-.21** (-.09)	-.23** (-.16*)
Power (H)	.20** (-.06)	.42** (.17**)	.63** (.56**)
Power (F)	-.06 (-.02)	-.09 (-.14)	.04 (.12)
Affiliation (H)	-.38** (-.48**)	-.08 (.01)	.18** (.32**)
Affiliation (F)	-.14* (-.06)	-.16** (-.03)	-.22** (-.19*)
Intimacy (H)	-.46** (-.40**)	-.33** (-.20**)	-.07 (.16*)
Intimacy (F)	-.34** (-.26**)	-.29** (-.16*)	-.14* (.02)

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

Note. H = Hope, F = Fear, S = Satisfaction, D = Dissatisfaction

Note. Results were generally invariant across the sexes.

## 3. Study 2

Study 1 reported the first tests (we know of) of the associations between the Dark Triad traits and individual differences in psychogenic motives. We did so in a large, undergraduate sample. However, we glossed over the distinction between satisfaction of needs and dissatisfaction of needs that might be important to provide further detail (Sheldon & Hilpert, 2012; Sheldon et al., 2011). Study 2 takes this distinction into consideration in an mTurk sample.

### 3.1. Method

#### 3.1.1. Participants and procedure

We recruited participants ( $N = 543$ ; 70% female; 18–74 years old,  $Age = 36.21$ ,  $SD = 12.73$ ) from Amazon's Mechanical Turk with US\$1 pay for the 30-min study. Participants were required to be native English speakers. After accepting the “HIT”, reading an informed consent, and agreeing to participate in an online study, participants completed the Dirty Dozen and motive measures in randomized order. Finally, participants completed the demographic survey, received a code for payment on mTurk, then submitted the HIT for payment, and lastly, were thanked and debriefed upon completion.

#### 3.1.2. Measures

The Dark Triad Dirty Dozen was used to measure the Dark Triad traits (Jonason & Webster, 2010). The method resembled Study 1. Items were averaged together to create an index of narcissism (Cronbach's  $\alpha = .83$ ), Machiavellianism ( $\alpha = .83$ ), and psychopathy ( $\alpha = .79$ ).<sup>4</sup>

<sup>4</sup> Psychopathy was correlated with narcissism ( $r(541) = .34$ ,  $p < .01$ ) and Machiavellianism ( $r(541) = .53$ ,  $p < .01$ ). Narcissism correlated with Machiavellianism ( $r(541) = .47$ ,  $p < .01$ ).

The 18-item Balanced Measure of Psychological Needs was used to measure explicit motives (Sheldon & Hilpert, 2012). Participants were asked to think how true each statement is “generally, in your life.” (1 = *no agreement*; 5 = *much agreement*). Factors are each composed of three items that measure Satisfaction in Need for Competence (e.g., “I do well even at the hard things.”), Dissatisfaction in Need for Competence (e.g., “I experience some kind of failure, or am unable to do well at something.”), Satisfaction in Need for Autonomy (e.g., “I am free to do things my own way.”), Dissatisfaction in Need for Autonomy (e.g., “There are people telling me what I have to do.”), Satisfaction in Need for Relatedness (e.g., “I feel close and connected with other people who are important to me.”), and Dissatisfaction in Need for Relatedness (e.g., “I have disagreements or conflicts with people I usually get along with.”). Items were averaged to create indexes of Satisfaction in Need for Competence ( $\alpha = .80$ ), Dissatisfaction in Need for Competence ( $\alpha = .78$ ), Satisfaction in Need for Autonomy ( $\alpha = .67$ ), Dissatisfaction in Need for Autonomy ( $\alpha = .72$ ), Satisfaction in Need for Relatedness ( $\alpha = .82$ ), and Dissatisfaction in Need for Relatedness ( $\alpha = .62$ ).

### 3.2. Results and discussion

Table 1 (second panel) contains zero-order correlations and standardized regression coefficients among the Dark Triad traits and explicit motives. Machiavellianism was negatively correlated to Satisfaction in Needs for Competence, Autonomy, and Relatedness; and positively correlated with Dissatisfaction in Needs for Competence, Autonomy, and Relatedness. Psychopathy was negatively correlated with Satisfaction in Needs for Competence and Autonomy (which dropped out in regression analysis) and Relatedness; and positively correlated with Dissatisfaction in Needs for Competence, Autonomy (which dropped out in regression analysis for Autonomy only), and Relatedness. Narcissism was negatively correlated to Satisfaction in Needs for Autonomy and Relatedness (which dropped out in regression analysis); and positively correlated with Dissatisfaction in Needs for Competence, Autonomy, and Relatedness. Overall, individuals higher in the Dark Triad traits were higher in dissatisfaction of needs for competence, autonomy, and relatedness than individuals lower in the Dark Triad traits. This suggests that a lack of psychological well-being partly explains the motivations under the hood of those high in the Dark Triad traits (Jonason, Baughman et al., 2015).

Before testing mediation, we tested sex differences. Men scored higher than women did on psychopathy ( $t(538) = 4.51, p < .01$ , Hedges'  $g = 0.42$ ) and Machiavellianism ( $t(538) = 3.25, p < .01, g = 0.31$ ), and women scored higher than men on Satisfaction for Need for Relatedness ( $t(538) = -3.94, p < .01, g = 0.37$ ). Therefore, we tested whether the explicit motives mediated sex differences in the Dark Triad traits where relevant, using both Sobel's test and  $\Delta R^2$ . Satisfaction in Need for Relatedness partially mediated sex differences in psychopathy ( $z = 3.26, p < .01$ ;  $\Delta R^2 = .02, F(1, 540) = 10.43, p < .01$ ) where the beta went from  $-.18 (p < .01)$  to  $-.13 (p < .01)$ , and in Machiavellianism ( $z = 2.94, p < .01$ ;  $\Delta R^2 = .01, F(1, 540) = 6.09, p < .05$ ), where the beta went from  $-.14 (p < .01)$  to  $-.10 (p < .05)$ .

## 4. Study 3

Study 1 and 2 relied on one measure of motives. To improve on this, in Study 3 we examined motives using a measure of goals. We tested for sex differences in the Dark Triad traits and motives. And, last, we test whether individual differences in motives can account for some of the sex differences in the Dark Triad traits.

### 4.1. Method

#### 4.1.1. Participants and procedure

Volunteers from Facebook ( $N = 320$ ; 76% female; 17–56 years old;  $M_{age} = 24.24, SD = 7.33$ ) participated in an online study on the Dark

Triad. Only those participants who completed the measures from unique IP addresses were included. Participants were informed of the nature of the study and were asked to give consent if they wished to participate; only those who gave consent have been included. They progressed through a series of self-report measures that assessed the variables of interest. At the end of the study, participants were debriefed and thanked.

#### 4.1.2. Measures

The Dark Triad Dirty Dozen was used to measure the Dark Triad traits (Jonason & Webster, 2010) as it was in Study 1 and 2. Items were averaged together to create an index of narcissism (Cronbach's  $\alpha = .84$ ), Machiavellianism ( $\alpha = .81$ ), and psychopathy ( $\alpha = .68$ ).<sup>5</sup>

To assess motives, we asked participants what the importance (1 = *not important*; 5 = *very important*) of a 24 explicit goals were using the life goals questionnaire GOALS (Pöhlmann & Brunstein, 1997). The measure is composed of dimensions measuring the goals of *intimacy* (e.g., “Have a close relationship.”), *affiliation* (e.g., “Spend a lot of time with other people.”), *achievement* (e.g., “Improve my education continuously.”), *power* (e.g., “Be able to exert influence.”), and *diversion* (e.g., “Lead an exciting life.”). We averaged the corresponding items to create indexes of each, all returning good levels of internal consistency ( $\alpha = .79$  to  $.87$ ).<sup>6</sup>

### 4.2. Results and discussion

In Table 1 (third panel) we present the links between the Dark Triad traits and individual differences in goals in both their zero-order and standardized regression forms. Psychopathy was negatively correlated with all the goals except power and these relationships remained when the variance among the Dark Triad traits was controlled for. Machiavellianism appeared to be weakly correlated with value placed in affiliation, achievement, and power, but these relationships dropped out in regression analyses. In contrast, Narcissism was only linked to the power and diversion goals and was linked to intimacy and affiliation when the shared variance was accounted for, suggesting there might be some suppression in relation to Narcissism.

Men scored higher than women did on psychopathy ( $t(318) = -5.14, p < .01$ , Hedges'  $g = -0.67$ ), narcissism ( $t(318) = -3.92, p < .01, g = -0.52$ ), and Machiavellianism ( $t(318) = -3.82, p < .01, g = -0.50$ ).<sup>7,8</sup> Women scored higher than men did on the goal of intimacy ( $t(318) = 3.22, p < .01, g = 0.35$ ). Therefore, we tested whether the goals mediated sex differences in the Dark Triad traits where relevant, using both Sobel's test and  $\Delta R^2$ . Intimacy fully mediated sex differences in psychopathy ( $z = 2.86, p < .05$ ;  $\Delta R^2 = .07, F(1, 317) = 23.47, p < .01$ ) such that the direct effect for sex ( $\beta = -18, p < .01$ ) became non-significant ( $\beta = .09$ ). This suggests low rates of the intimacy motivation facilitated psychopathy in men.

## 5. Study 4

In Study 1, 2, and 3 we used the Dirty Dozen measure of the Dark Triad. This measure is highly concise and has received some criticism for its limited heterogeneity and construct validity (e.g., Jones & Paulhus, 2014). Therefore, we adopted longer measures of the Dark Triad traits. In Study 4 we examine the links between the Dark Triad traits and a new multidimensional measure of explicit motives.

<sup>5</sup> Machiavellianism was correlated with psychopathy ( $r(318) = .61, p < .01$ ) and narcissism ( $r(318) = .62, p < .01$ ) and Narcissism was correlated with psychopathy ( $r(318) = .36, p < .01$ ). This portion of the data overlaps with Jonason and Krause (2013).

<sup>6</sup> The “altruism” goal was omitted because of a transcription error by a research assistant. We feel this is a tangential motivation to our purposes here and, therefore, a minor problem.

<sup>7</sup> The interpretation of Hedges'  $g$  is the same as Cohen's  $d$  but the former was used to address the imbalance number of men and women in the sample.

<sup>8</sup> These results overlap with Jonason and Krause (2013).

## 5.1. Method

### 5.1.1. Participants and procedure

Volunteers ( $N = 255$ ; 69% female; 17–77 years old;  $M_{age} = 24.61$ ,  $SD = 9.37$ ) from [socialpsychology.org](http://socialpsychology.org) participated in an online study on the Dark Triad and motives. Only those participants who completed the measures from unique IP addresses were included. Participants were informed of the nature of the study and were asked to give consent if they wished to participate; only those who gave consent have been included. They progressed through a series of self-report measures that assessed the variables of interest. At the end of the study, participants were debriefed and thanked.

### 5.1.2. Measures

The 64-item Self-Report Psychopathy Scale III (Paulhus, Neumann, & Hare, 2009) was used to assess subclinical psychopathy. Participants indicated how much they agreed (1 = *not at all*; 5 = *extremely*), with statements such as “Rules are made to be broken” and “I enjoy taking chances.” The scores were averaged to create an index of psychopathy (Cronbach's  $\alpha = .91$ ).

The 40-item Narcissistic Personality Inventory (Raskin & Terry, 1988) assessed subclinical narcissism. For each item the participants were presented with two statements from which they had to choose the statement that applied to them best. Of the statements, one reflected a narcissistic attitude (e.g., “I am more capable than other people.”), whereas the other did not (e.g., “There is a lot I can learn from other people.”). Summing the number of narcissistic statements chosen yielded an overall narcissism score for each participant ( $\alpha = .86$ ).

Machiavellianism was measured with the 20-item MACH-IV (Christie & Geis, 1970). Participants were asked how much they agreed (1 = *not at all*; 5 = *extremely*), with statements such as: “Anyone who completely trusts anyone else is asking for trouble” and “Never tell anyone the real reason you did something unless it is useful to do so.” The items were averaged to create the index of Machiavellianism ( $\alpha = .72$ ).<sup>9</sup>

Individual differences in motives were measured by completing the Unified Motives Scale (Schönbrodt & Gerstenberg, 2012). The measure provides scores for four motives (i.e., achievement, power, affiliation, and intimacy) which are measured in hope and fear components. Participants indicated their agreement (1 = *strongly disagree*; 5 = *strongly agree*) with statements like “I'm very keen on an undamaged reputation.” and “Encounters with other people make me happy” and indicated the importance (1 = *not at all*; 5 = *extremely*) of a number for statements of statements to them, such as “Have a wide circle of friends.” and “Personally producing work of high quality”. We averaged the corresponding items to create indexes of the hope motive components ( $\alpha_s = .83$  to  $.86$ ) and the fear motive components ( $\alpha_s = .64$  to  $.74$ ).<sup>10</sup>

## 5.2. Results

Table 1 (fourth panel) contains zero-order correlations and standardized regression coefficients among the Dark Triad traits and individual differences in motives. Psychopathy was negatively correlated with Fear of Achievement, Fear of Affiliation, Hope for Intimacy, and Fear of Intimacy, and positively correlated with Hope for Power. Narcissism was positively linked to Hope for Achievement, Hope for Power, and Hope for Affiliation. Machiavellianism was positively linked to a Hope for Power, which dropped out in regression analysis. Machiavellianism was negatively associated with Fear of Achievement,

Hope for Affiliation, Fear of Affiliation, Hope for Intimacy, and Fear of Intimacy.

Before testing mediation, we tested sex differences. Men scored higher than women did on psychopathy ( $t(253) = -6.16$ ,  $p < .01$ , Hedges'  $g = -0.83$ ), narcissism ( $t(253) = -1.94$ ,  $p < .05$ ,  $g = -0.34$ ), and Machiavellianism ( $t(253) = -3.21$ ,  $p < .05$ ,  $g = -0.43$ ), and women scored higher than men did on Fear of Achievement ( $t(253) = 4.47$ ,  $p < .01$ ,  $g = 0.61$ ), Fear of Power ( $t(253) = 3.11$ ,  $p < .01$ ,  $g = 0.42$ ), Hope for Affiliation ( $t(253) = 2.20$ ,  $p < .05$ ,  $g = 0.30$ ), Fear of Affiliation ( $t(253) = 3.44$ ,  $p < .01$ ,  $g = 0.47$ ), Hope for Intimacy ( $t(253) = 2.63$ ,  $p < .01$ ,  $g = 0.36$ ), and Fear of Intimacy ( $t(253) = 4.62$ ,  $p < .01$ ,  $g = 0.63$ ).

We tested whether individual differences in motives mediated sex differences in the Dark Triad where relevant, using both Sobel's test and  $\Delta R^2$ . Hope for Affiliation partially mediated sex differences in Machiavellianism ( $z = 2.08$ ,  $p < .05$ ;  $\Delta R^2 = .13$ ,  $F(1, 252) = 39.20$ ,  $p < .01$ ) where beta changed from  $.06$  ( $p < .01$ ) to  $.15$  ( $p < .05$ ). Hope for Intimacy partially sex differences in mediated psychopathy ( $z = 2.32$ ,  $p < .05$ ;  $\Delta R^2 = .08$ ,  $F(1, 252) = 24.32$ ,  $p < .01$ ) and Machiavellianism ( $z = 2.49$ ,  $p < .05$ ;  $\Delta R^2 = .19$ ,  $F(1, 252) = 60.16$ ,  $p < .01$ ) where the beta went from  $.36$  ( $p < .01$ ) to  $.32$  ( $p < .01$ ) in the former, and from  $.06$  ( $p < .01$ ) to  $.13$  ( $p < .05$ ) in the latter. Fear of Intimacy partially mediated sex differences in psychopathy ( $z = 2.74$ ,  $p < .01$ ;  $\Delta R^2 = .04$ ,  $F(1, 252) = 11.63$ ,  $p < .01$ ) where the beta went from  $.36$  ( $p < .01$ ) to  $.30$  ( $p < .01$ ).

## 6. General discussion

Why, in a proximal fashion, are those high on the Dark Triad traits likely to be racist (Hodson et al., 2009), “steal” other people's money (Jones, 2013), and be *toxic* employees (Zettler & Solga, 2013)? Prior research suggests they might embody such apparently socially undesirable behaviors because they have aversive/selfish moral and social values (Jonason, Strosser et al., 2015), limited empathy (Jonason & Krause, 2013), and a generally exploitive social style (Jonason & Webster, 2012) that may facilitate the corresponding attitudes and behaviors. In a series of four studies of college students, volunteers, and mTurk participants from America and Australia using brief and lengthy measures of the Dark Triad traits and three measures of individual differences in motives, we provide substantial detail into another way of thinking about the question of what makes those who are high on the Dark Triad traits “tick.” We examined some of the motivational foundations of the Dark Triad traits and how individual differences in motives might partially account for sex differences in the Dark Triad traits.

To begin, we discuss the patterns for each of the Dark Triad traits specifically. Those high in psychopathy were slightly dissatisfied (in just Study 1) with their need for competence, and hoped for power and did not hold goals of intimacy, affiliation, or achievement, did not hope or fear intimacy, and were dissatisfied in their need for relatedness and autonomy. The strongest correlation between psychopathy and our various motives indexes (i.e.,  $-.38$ ), suggests those high in psychopathy particularly devalue intimacy as a goal, which may be reflective of their inherently antisocial nature (Cleckley, 1976; Hare, 1985) and hardness from social anxiety (Sandvik, Hansen, Hystad, Johnsen, & Bartone, 2015). Like psychopathy, those high in Machiavellianism did not feel sufficiently satisfied in their needs for competence and autonomy, felt their achievement was insufficient, and did not hope for affiliation. While most of the relationships hovered around  $.20$ , indicative of relatively weak correlations, there was one particularly strong one. In Study 3, those high in Machiavellianism had little hope for affiliation, with a medium sized (i.e.,  $.48$ ) correlation. This suggests those high in this trait were particularly uninterested in forming social bonds. Indeed, they may view people as avenues and instruments (e.g., an exchange orientation; Jonason, Duineveld, & Middleton, 2015) to their success because they are reward-oriented (Birkás, Csathó, Gács, & Bereczkei, 2015;

<sup>9</sup> Psychopathy was correlated with narcissism ( $r(253) = .51$ ,  $p < .01$ ) and Machiavellianism ( $r(253) = .53$ ,  $p < .01$ ). Narcissism correlated with Machiavellianism ( $r(253) = .30$ ,  $p < .01$ ).

<sup>10</sup> Specifics available upon request.

Jonason & Jackson, 2016) as opposed to genuinely liking people (Jonason & Schmitt, 2012).

Narcissism showed some differences and similarities with the other Dark Triad traits. Importantly, narcissism was correlated with the goals of affiliation, intimacy, and hoping for affiliation and intimacy while fearing affiliation. Such results highlight the more “social” aspect of narcissism relative to the other two traits (Jonason, Strosser et al., 2015; Raskin & Terry, 1988). Those high in narcissism may “need” other people to feed their ego needs and, thus, desire more (and more) social connections to satisfy their addiction; and this, perhaps, partly explains why people intuitively think narcissists talk about themselves at unusually high rates when they actually do not (Carey et al., 2015). However, where narcissism lined up with psychopathy and Machiavellianism was in relation to dissatisfaction with autonomy and competence needs and a relatively strong (i.e., .56) desire for power. This may be consistent with work suggesting what those high on the Dark Triad traits are motivated by is sex, power, and money (Lee et al., 2013; Semanya & Honey, 2015). Achievement, competence, and autonomy might all be motivations that can be achieved or evidenced in these types of goals.

In general, need dissatisfaction was associated with the Dark Triad traits. Although these relationships were modest, they shed light onto the Dark Triad traits by suggesting that self-concept-based motivations, and lower levels of psychological well-being, underlie motivations for people higher in the Dark Triad traits. Such results are consistent with work examining the diminished psychological health, including subjective well-being, and the Dark Triad traits (Jonason, Baughman et al., 2015).

With some potentially random exceptions, we have replicated sex differences in the Dark Triad traits (Jonason et al., 2009; Jonason, Li et al., 2013). Men may score higher on the Dark Triad traits than women do because they of asymmetries in the payoff rates for engaging in such lifestyle, an argument that mirrors one in mating research (Buss & Schmitt, 1993). We also found a number of sex differences in motives. In general, women appeared more motivated by the affiliation/intimacy motivation and less so by motives like power and success and the reverse was generally true for men (Bernard et al., 2005; Fieder & Huber, 2012; Försterling, Preikschas, & Agthe, 2007).

To better understand sex differences in the Dark Triad traits, we tested for confounding mediation to test whether individual differences in the motives might account for some of the sex differences in the Dark Triad traits. For instance, satisfaction with one's need for relatedness was diminished in women who were high in psychopathy (Study 1). Similarly, the motivational goal of intimacy was undermined in women with high rates of psychopathy (Study 2). Said another way, not caring about others may facilitate the antisociality of men who are characterized by psychopathy in particular (Jonason, Lyons et al., 2013). Alternatively, men had a greater hope for success than women did and this was facilitated by both individual differences in narcissism and psychopathy (Study 2). If the Dark Triad traits are male-specific adaptations for reproductive success (Jonason et al., 2009, 2011; but see Carter et al., 2014) and women desire partners who are successful (Buss & Schmitt, 1993; Jonason, Li, & Madson, 2012), having the motivation to achieve through the Dark Triad traits might be essential to the male sexual agenda (i.e., it provides short-term mating men with an attribute their targets' desire). In general, what these mediation effects mean, then, is that men and women are not necessarily different on the Dark Triad traits but, instead, they differ in their motivational systems and these motivational systems are captured to a degree by measures of the Dark Triad traits.

In this study we have adopted a rather atheoretical model of individual differences in motivations; at the very least, it relies on a proximal model of personality (see Scott-Phillips, Dickins, & West, 2011). The model used in the present paper represents a humanistic (see Deci, 1975), psychoanalytic (see McClelland, 1987), and Maslowian (see Maslow, 1987) approach to understanding what makes people do

what they do. While the achievement-power-affiliation model of motivations is well researched, it lacks the a priori power of evolutionary approaches to motivation (Confer et al., 2010). From this perspective, individuals, men in particular, may seek power because it affords them resources and status that improves their reproductive success (Buss & Schmitt, 1993) but they are not motivated by a drive for power itself and may account for relatively weak correlations throughout. In contrast, women may seek affiliation because it affords them protection from the vagaries of life, which will facilitate their adaptive agenda. From an evolutionary perspective, these three psychogenic motives may insufficiently capture the full range of human motivations (Bernard et al., 2005; Fieder & Huber, 2012; Försterling et al., 2007).

Instead, an evolutionarily-informed model of human motives suggests seven fundamental motives (i.e., Having good relationships with others; Having status/power; Making sure you are safe; Finding new mates for sexual/romantic relationships; Making sure your present mate is faithful/happy; Avoiding diseases, viruses, and colds; Family matters) may better capture the range of human motivations as they each tap recurrent, adaptive problems and motivational systems that will have been the fodder for selection processes (see Kenrick & Griskevicius, 2013). If we accept the premises that (1) personality traits capture underlying solutions to adaptive problems (Buss, 1991, 2009) and that (2) the Dark Triad traits capture adaptations for an accelerated, exploitive approach to life (Jonason & Webster, 2012; Jonason et al., 2009, 2010, 2011), the fundamental motives paradigm might be a better framework to understand what makes those high on the Dark Triad traits “tick”. Future work should attend to this issue, but we focused on these psychogenic motives as we perceived them to be (1) part of a general framework of motives and (2) more fully vetted than the aforementioned evolutionary ones.

Another potentially valuable integrative model would be to apply McAdams' (2013) three level theory of personality and self to measurement and understanding of the dark side of human behavior. In this way, the Dark Triad traits could fit in the level of *social actor*, along with relevant skills and social reputation. Then, motives, goals, and values would fit into the level of *social agent*. Lastly, life narrative themes could be used to tap into the self as *author*. Integrating these three levels of identity would provide a cohesive and dynamic theory about “dark” individuals.

## 7. Limitations and conclusions

These four studies emphasize description of the relevant relationships, demonstrate some methodological heterogeneity, include relatively large and diverse samples, and incorporate replications. As we did not use the same measures of motives across the first four studies it is hard to determine why some inconsistencies existed. We echo Cooper (2015) here, that is unreasonable to expect for a “perfect” alignment of results across measures, methods, and samples given the different and somewhat unavoidable error/variance associated with each of these.

Although the current studies provide an important and valuable first step by detailing the relationships between motives and the Dark Triad traits, they rely solely on self-reports of individual difference variables without shedding light onto how these perspectives differentially predict real-world social behaviors. Furthermore, while the current studies provide a first look into the motivational foundations of the Dark Triad traits, longitudinal studies are needed to help capture the self-regulatory processes inherent to maintaining balance in life. That is, over time, do motives influence daily social behaviors more or less than the Dark Triad traits do? Future studies in this domain could use smartphone technology (Miller, 2012; Wrzus & Mehl, 2015) to integrate in-the-moment experience sampling with measurement of daily social behaviors over time by providing real-time, virtually all the time, variation in behaviors such as sociability, emotional state, actual location, physical activity, and language use. In addition, future

work should attempt to ascertain whether implicit measures of motivations (Deci, 1975; Deci & Ryan, 1985) can account for individual differences in the Dark Triad traits.<sup>11</sup>

A further problem with our studies is related the psychometric properties of the scales used. Some of our scale did not attain traditional rates of internal consistency (i.e., .70; Nunnally, 1978), yet they were consistent with more liberal standards for basic research (i.e., .50; Schmitt, 1996). That aside, the most pertinent psychometric criticism is the (over)reliance on the Dirty Dozen measure of the Dark Triad traits. Although there is a considerable psychometric literature built around this measure (Jonason, Kaufman, Webster, & Geher, 2013; Jonason & Luévano, 2013; Jonason & Webster, 2010; Webster & Jonason, 2013) and it has proved useful in theoretical studies (Jonason & Buss, 2012; Jonason et al., 2011), it may not adequately tap the range of content of lengthier measures of the Dark Triad traits (e.g., Jones & Paulhus, 2014). We did, however, use longer measures in Study 4. However, we failed to examine the multidimensional nature of psychopathy and narcissism. Examining these lower-order factors (1) are beyond the scope of this paper, (2) are even further down the theoretical structure we detailed above, (3) would be inconsistent with much of the Dark Triad work on these traits that examines psychopathy and narcissism in general which were our goals, and (4) would be an exploratory endeavor at best. Nevertheless, the distinction between primary/secondary psychopathy or the various aspects of narcissism may provide unique information about the links between “dark” personality and motives. Future work should consider more fine-grained analyses of the motivational foundation of the Dark Triad traits.

Although we have provided new details about the Dark Triad traits, we relied on mostly WEIRD samples (i.e., western, educated, industrialized, rich, and democratic; see Henrich, Heine, & Norenzayan, 2010). While we used a pool of over 2500 participants to assess the relationships between the Dark Triad traits and individual differences in motives, we cannot rule out the possibility for cross-cultural variance. While motives might be relatively universal across the human species (Bernard et al., 2005), they may differ across socioecological conditions which may be present in different countries/cultures and could activate or suppress different motivational priorities (Brumbach, Figueredo, & Ellis, 2009). It is true that the cultural variability and robustness of our effects is a matter of debate, but we expect the variance to be associated with evolutionary-relevant factors in as much as motivational systems are what may really be activated in changing conditions and traits like the Dark Triad traits are merely phenotypic expressions of shifted motivational priorities.

What do cars and heroes have in common? Both heroes and cars have hoods. In shows like Arrow<sup>®</sup> and movies like Batman<sup>®</sup>, there is a pervasive theme that the removal of their hood will reveal a better understanding of who this person is and, thus, what motivates them. Similarly, if one wants to understand how a car works, one can open the hood and examine the parts that “motivate” movement. In that way, we have attempted to look under the hood of those high in the Dark Triad traits to understand what makes them tick, and in short, it appears to center on a desire for success, power, and social connection, depending on the trait.

## References

- Adams, H. M., Luévano, V. X., & Jonason, P. K. (2014). Risky business: Willingness to be caught in an extra-pair relationship, relationship experience, and the Dark Triad. *Personality and Individual Differences*, *66*, 204–207.
- Baumeister, R.F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497–529.
- Bernard, L.C. (2010). Motivation and personality: Relationships between putative motive dimensions and the five factor model of personality. *Psychological Reports*, *106*, 1–19.
- Bernard, L.C., Mills, M., Swenson, L., & Walsh, R.P. (2005). An evolutionary theory of human motivation. *Genetic, Social, and General Psychology Monographs*, *131*, 129–184.
- Birkás, B., Csathó, Á., Gács, B., & Bereczkei, T. (2015). Nothing ventured nothing gained: Strong associations between reward sensitivity and two measures of Machiavellianism. *Personality and Individual Differences*, *74*, 112–115.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London, England: Tavistock.
- Brumbach, B.H., Figueredo, A.J., & Ellis, B.J. (2009). Effects of harsh and unpredictable environments in adolescence on development of life history strategies: A longitudinal test of an evolutionary model. *Human Nature*, *20*, 25–51.
- Buss, D.M. (1991). Evolutionary personality psychology. *Annual Review of Psychology*, *42*, 459–491.
- Buss, D.M. (2009). How can evolutionary psychology successfully explain personality and individual differences. *Perspectives on Psychological Science*, *4*, 359–366.
- Buss, D.M., & Schmitt, D.P. (1993). Sexual Strategies Theory: An evolutionary perspective on human mating. *Psychological Review*, *100*, 204–232.
- Campbell, W.K., Brunell, A.B., & Finkel, E.J. (2006). Narcissism, interpersonal, self-regulation and romantic relationships: An agency model approach. In K.D. Vohs, & E.J. Finkel (Eds.), *Self and relationships. Connecting intrapersonal and interpersonal processes* (pp. 57–83). New York, NY: The Guilford Press.
- Carey, A.L., Brucks, M.S., Küfner, A.C.P., Holtzman, N.S., Große Deters, F., Back, M.D., ... Mehl, M.R. (2015). Narcissism and the use of personal pronouns revisited. *Journal of Personality and Social Psychology*, e1–e15.
- Carter, G.L., Campbell, A.C., & Muncer, S. (2014). The dark triad: Beyond a ‘male’ mating strategy. *Personality and Individual Differences*, *56*, 159–164.
- deCharms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York, NY: Academic Press.
- Christie, R.C., & Geis, F.L. (1970). *Studies in Machiavellianism*. New York, NY: Academic Press.
- Cleckley, H. (1976). *The mask of sanity* (5th ed.). St. Louis, MO: Mosby.
- Confer, J.C., Easton, J.A., Fleischman, D.S., Goetz, C.D., Lewis, D.M., Perilloux, C., & Buss, D.M. (2010). Evolutionary psychology: Controversies, questions, prospects, and limitations. *American Psychologist*, *65*, 110–126.
- Cooper, M.L. (2015). Editorial: Incoming Editor, JPSP: PPID. *Journal of Personality and Social Psychology*, 1–4.
- Cooper, M.L., Agocha, V.B., & Sheldon, M.S. (2000). A motivational perspective on risky behaviors: The role of personality and affect regulatory processes. *Journal of Personality*, *68*, 1059–1088.
- Crysel, L.C., Crosier, B.S., & Webster, G.D. (2013). The Dark Triad and risk behavior. *Personality and Individual Differences*, *54*, 35–40.
- Deci, E.L. (1975). *Intrinsic motivation*. New York, NY: Plenum.
- Deci, E.L., & Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum.
- Deci, E.L., & Ryan, R.M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227–268.
- Elliot, A.J., & Thrash, T.M. (2001). Narcissism and motivation. *Psychological Inquiry*, *12*, 216–219.
- Fieder, M., & Huber, S. (2012). An evolutionary account of status, power, and career in modern societies. *Human Nature*, *23*, 191–207.
- Försterling, F., Preikschas, S., & Agthe, M. (2007). Ability, luck, and looks: An evolutionary look at achievement ascriptions and the sexual attribution bias. *Journal of Personality and Social Psychology*, *92*, 775–788.
- Giammarco, E.A., & Vernon, P.A. (2014). Vengeance and the Dark Triad: The role of empathy and perspective taking in trait forgiveness. *Personality and Individual Differences*, *67*, 23–29.
- Hare, R.D. (1985). Comparison of procedures for the assessment of Psychopathy. *Journal of Consulting and Clinical Psychology*, *53*, 7–16.
- Harlow, H.F., & Zimmermann, R.R. (1958). Affectional responses in the infant monkey. *Science*, *130*, 421–432.
- Harpur, T.J., Hare, R.D., & Hakstian, A.R. (1989). Two-factor conceptualization of Psychopathy: Construct validity and assessment implications. *Psychological Assessment*, *1*, 6–17.
- Henrich, J., Heine, S.J., & Noren zayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*, 61–83.
- Hodson, G., Hogg, S.M., & MacInnis, C. (2009). The role of “dark personalities” (Narcissism, Machiavellianism, Psychopathy), Big Five personality factors, and ideology in explaining prejudice. *Journal of Research in Personality*, *43*, 686–690.
- Jakobwitz, S., & Egan, V. (2006). The Dark Triad and normal personality traits. *Personality and Individual Differences*, *40*, 331–339.
- Jonason, P.K., & Buss, D.M. (2012). Avoiding entangling commitments: Tactics for implementing a short-term mating strategy. *Personality and Individual Differences*, *52*, 606–610.
- Jonason, P.K., & Jackson, C.J. (2016). The Dark Triad traits through the lens of Reinforcement Sensitivity Theory. *Personality and Individual Differences*, *90*, 273–277.
- Jonason, P.K., & Krause, L. (2013). The emotional deficits associated with the Dark Triad traits: Cognitive empathy, affective empathy, and alexithymia. *Personality and Individual Differences*, *55*, 532–537.
- Jonason, P.K., & Luévano, V.X. (2013). Walking the thin line between efficiency and accuracy: Validity and structure of the Dirty Dozen. *Personality and Individual Differences*, *55*, 76–81.
- Jonason, P.K., & Schmitt, D.P. (2012). What have you done for me lately?: Friendship-selection in the shadows of Dark Triad traits. *Evolutionary Psychology*, *10*, 400–421.
- Jonason, P.K., & Tost, J. (2010). I just cannot control myself: The Dark Triad and self-control. *Personality and Individual Differences*, *49*, 611–615.

<sup>11</sup> To date, we have collected three studies using implicit measures with null or non-sensible effects across two different methods and three different samples.

- Jonason, P.K., & Webster, G.D. (2010). The Dirty Dozen: A concise measure of the Dark Triad. *Psychological Assessment*, 22, 420–432.
- Jonason, P.K., & Webster, G.D. (2012). A protean approach to social influence: Dark Triad personalities and social influence tactics. *Personality and Individual Differences*, 52, 521–526.
- Jonason, P.K., Baughman, H.M., Carter, G.L., & Parker, P. (2015). Dorian without his portrait: The psychological, social, and physical health costs of the Dark Triad traits. *Personality and Individual Differences*, 78, 5–13.
- Jonason, P.K., Duineveld, J.J., & Middleton, J.P. (2015). Pathology, pseudopathology, and the Dark Triad of personality. *Personality and Individual Differences*, 78, 43–47.
- Jonason, P.K., Kaufman, S.B., Webster, G.D., & Geher, G. (2013). What lies beneath the Dark Triad Dirty Dozen: Varied relations with the Big Five. *Individual Differences Research*, 11, 81–90.
- Jonason, P.K., Koenig, B., & Tost, J. (2010). Living a fast life: The Dark Triad and Life History Theory. *Human Nature*, 21, 428–442.
- Jonason, P.K., Li, N.P., & Czarna, A.Z. (2013). Quick and dirty: Some psychosocial costs associated with the Dark Triad in three countries. *Evolutionary Psychology*, 11, 172–185.
- Jonason, P.K., Li, N.P., & Madson, L. (2012). It's not all about the Benjamins: Understanding preferences for mates with resources. *Personality and Individual Differences*, 52, 306–310.
- Jonason, P.K., Li, N.P., Webster, G.D., & Schmitt, D.P. (2009). The Dark Triad: Facilitating a short-term mating strategy in men. *European Journal of Personality*, 23, 5–18.
- Jonason, P.K., Lyons, M., Bethell, E., & Ross, R. (2013). Different routes to limited empathy in the sexes: Examining the links between the Dark Triad and empathy. *Personality and Individual Differences*, 57, 572–576.
- Jonason, P.K., Strosser, G.L., Kroll, C.H., Duineveld, J.J., & Baruffi, S.A. (2015). Valuing myself over others: The Dark Triad traits and moral and social values. *Personality and Individual Differences*, 81, 102–106.
- Jonason, P.K., Valentine, K.A., Li, N.P., & Harbeson, C.L. (2011). Mate-selection and the Dark Triad: Facilitating a short-term mating strategy and creating a volatile environment. *Personality and Individual Differences*, 51, 759–763.
- Jonason, P.K., Webster, G.W., Schmitt, D.P., Li, N.P., & Crysel, L. (2012). The antihero in popular culture: A Life History Theory of the Dark Triad. *Review of General Psychology*, 16, 192–199.
- Jones, D.N. (2013). What's mine is mine and what's yours is mine: The Dark Triad and gambling with your neighbor's money. *Journal of Research in Personality*, 47, 563–571.
- Jones, D.N., & Figueredo, A.J. (2013). The core of darkness: Uncovering the heart of the Dark Triad. *European Journal of Personality*, 27, 521–531.
- Jones, D.N., & Paulhus, D.L. (2011). Differentiating the Dark Triad within the interpersonal circumplex. In L.M. Horowitz, & S. Strack (Eds.), *Theory, research, assessment, and therapeutic interventions* (pp. 249–268). Mahwah, NJ: John Wiley & Sons, Inc.
- Jones, D.N., & Paulhus, D.L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment*, 21, 28–41.
- Kavanagh, P.S., Signal, T.D., & Taylor, N. (2013). The Dark Triad and animal cruelty: Dark personalities, dark attitudes, and dark behaviors. *Personality and Individual Differences*, 55, 666–670.
- Kenrick, D.T., & Griskevicius, V. (2013). *The rational animal*. New York, NY: Basic Books.
- Küfner, A.C.P., Dufner, M., & Back, M.D. (2015). Das Dreckige Dutzend und die Niederträchtigen Neun – Kurzskaalen zur Erfassung von Narzissmus, Machiavellismus und Psychopathie [The Dirty Dozen and the Naughty Nine – Short scales for the assessment of narcissism, Machiavellianism and psychopathy]. *Diagnostica*, 61, 76–91. <http://dx.doi.org/10.1026/0012-1924/a000124>.
- Lee, K., & Ashton, M.C. (2005). Psychopathy, Machiavellianism, and Narcissism in the Five-Factor Model and the HEXACO model of personality structure. *Personality and Individual Differences*, 38, 1571–1582.
- Lee, K., Ashton, M.C., Wiltshire, J., Bourdage, J.S., Visser, B.A., & Gallucci, A. (2013). Sex, power, and money: Prediction from the Dark Triad and Honest-Humility. *European Journal of Personality*, 27, 169–184.
- Levenson, M.R., Kiehl, K.A., & Fitzpatrick, C.M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, 68, 151–158.
- Machiavelli, N. (1532/2004). *The Prince*. London, England: Penguin.
- Maslow, A.H. (1987). *Motivation and personality* (3rd ed.). New York, NY: Harper & Row.
- McAdams, D.P. (2013). The psychological self as actor, agent, and author. *Perspectives on Psychological Science*, 8, 272–295.
- McClelland, D.C. (1985). How motives, skills, and values determine what people do. *American Psychologist*, 40, 812–825.
- McClelland, D.C. (1987). *Human motivation*. New York, NY: Cambridge University Press.
- McClelland, D.C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review*, 96, 690–702.
- McDonald, M.M., Donnellan, M.B., & Navarrete, C.D. (2012). A life history approach to understanding the Dark Triad. *Personality and Individual Differences*, 52, 601–605.
- McHoskey, J.W. (1999). Machiavellianism, intrinsic versus extrinsic goals, and social interest: A self-determination theory analysis. *Motivation and Emotion*, 23, 267–283.
- Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain Sciences*, 18, 523–599.
- Miller, G. (2012). The smartphone psychology manifesto. *Perspectives on Psychological Science*, 7, 221–237.
- Nunnally, J.C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw Hill.
- O'Boyle, E.H., Forsyth, D.R., Banks, G.C., & McDaniel, M.A. (2012). A meta-analysis of the Dark Triad and work behavior: A Social Exchange perspective. *Journal of Applied Psychology*, 97, 557–579.
- Paulhus, D.L., & Williams, K.M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism and Psychopathy. *Journal of Research in Personality*, 36, 556–563.
- Paulhus, D.L., Neumann, J., & Hare, R. (2009). *Manual for the Self-Report Psychopathy Scale (SRP-III)*. Toronto, Canada: Multi-Health Systems.
- Petrides, K.V., Vernon, P.A., Schermer, J.A., & Veselka, L. (2011). Trait emotional intelligence and the Dark Triad traits of personality. *Twin Research and Human Genetics*, 14, 35–41.
- Pöhlmann, K., & Brunstein, J.C. (1997). GOALS: A questionnaire for assessing life goals. *Diagnostica*, 43, 63–79.
- Raskin, R.N., & Terry, H. (1988). A principal components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, 54, 890–902.
- Ryan, R.M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, 63, 397–427.
- Sandvik, A.M., Hansen, A.L., Hystad, S.W., Johnsen, B.H., & Bartone, P.T. (2015). Psychopathy, anxiety, and resiliency—Psychological hardness as a mediator of the psychopathy–anxiety relationship in a prison setting. *Personality and Individual Differences*, 72, 30–34.
- Schmitt, N. (1996). Uses and abuses of coefficient alphas. *Psychological Assessment*, 8, 350–353.
- Schönbrodt, F.D., & Gerstenberg, F.X.R. (2012). An IRT analysis of motive questionnaires: The Unified Motive Scales. *Journal of Research in Personality*, 46, 725–742.
- Scott-Phillips, T.C., Dickins, T.A., & West, S.A. (2011). Evolutionary theory and the ultimate–proximate distinction in the human behavioral sciences. *Perspectives on Psychological Science*, 1, 38–47.
- Semenya, S.W., & Honey, P.L. (2015). Dominance styles mediate sex differences in Dark Triad traits. *Personality and Individual Differences*, 83, 37–43.
- Sheldon, K.M. (2004). *Optimal human being: An integrated multi-level perspective*. Mahwah, NJ: Lawrence Erlbaum.
- Sheldon, K.M., & Gunz, A. (2009). Psychological needs as basic motives, not just experiential requirements. *Journal of Personality*, 77, 1467–1492.
- Sheldon, K.M., & Hilpert, J.C. (2012). The balanced measure of psychological needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion*, 36, 439–451.
- Sheldon, K.M., Abad, N., & Hinsch, C. (2011). A two-process view of Facebook use and relatedness need-satisfaction: disconnection drives use, and connection rewards it. *Journal of Personality and Social Psychology*, 100, 766–775.
- Spain, S.M., Harms, P., & Lebernton, J.M. (2014). The dark side of personality at work. *Journal of Organizational Behavior*, 53, S41–S60.
- Vansteenkiste, M., & Ryan, R.M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 23, 263–280.
- Vernon, P.A., Villani, V.C., Vickers, L.C., & Harris, J.A. (2008). A behavioral genetic investigation of the Dark Triad and the Big 5. *Personality and Individual Differences*, 44, 445–452.
- Wai, M., & Tiliopoulos, N. (2012). The affective and cognitive empathic nature of the dark triad of personality. *Personality and Individual Differences*, 52, 794–799.
- Webster, G.D., & Jonason, P.K. (2013). Putting the “IRT” in “Dirty”: Item Response Theory analyses of the Dark Triad Dirty Dozen—An efficient measure of narcissism, psychopathy, and Machiavellianism. *Personality and Individual Differences*, 54, 302–306.
- White, R.W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66, 297–333.
- Wrzus, C., & Mehl, M.R. (2015). Lab and/or field? Measuring personality processes and their social consequences. *European Journal of Personality*, 29, 250–271.
- Zettler, I., & Solga, M. (2013). Not enough of a “dark” trait?: Linking Machiavellianism to job performance. *European Journal of Personality*, 27, 545–554.