

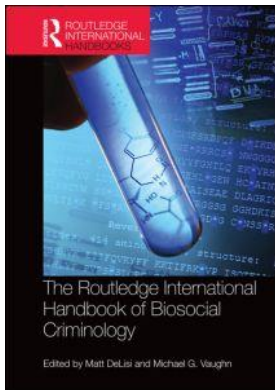
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An evolutionary perspective on interpersonal violence

Sex differences and personality links

Peter K. Jonason

Introduction

Interpersonal violence—violence among those who have a non-zero level of acquaintance— affects as many as one third of men and women (Koss, 1992). Interpersonal violence includes psychological aggression (e.g. verbal abuse), physical aggression (e.g. bullying), and sexual coercion (e.g. rape), and occurs in both acquaintance and intimate partner contexts (Figueredo *et al.*, 2012). There has been a considerable amount of research on interpersonal violence and thus there is no shortage of theoretical accounts that try to explain it. A sociologist might suggest interpersonal violence is a function of income inequality and other institutional factors (Ember and Ember, 2004). Geneticists might suggest interpersonal violence is a function of genes that code for aggression and testosterone (Viding, 2004). Feminists might contend interpersonal violence is part of oppressive patriarchal systems (Johnson, 1995). Social psychologists would contend that interpersonal violence is learned from models in one's life (Bandura, 1983) or in the media (Berkowitz *et al.*, 1962). And last, but not least, clinical psychologists have conceptualized interpersonal violence as one of the diagnostic criteria for personality traits such as psychopathy (Hare, 1993).

All of these are interesting perspectives, but they fail in some important ways. First, they do not answer the “why” question. That is, they are more concerned with proximal causes of interpersonal violence as opposed to ultimate ones. Second, they assume that interpersonal violence is inherently negative, but most would agree that a man defending his wife from an attacker, or a mother defending her offspring from abduction, is acceptable and even called for. Third, they fail to view interpersonal violence within the larger context of evolutionary biology; a framework that despite some objections (*viz.*, human exceptionalism), humans fall within. In contrast, one might adopt an evolutionary paradigm to understand interpersonal violence; viewing aggression as potentially strategic and adaptive given the right circumstances (Archer, 2001; Figueredo *et al.*, 2012). Such a perspective would integrate the proximal details from above, but also provide some unique insights into the nature of interpersonal violence that are not intuitively obvious and even somewhat provocative. As a road-map, this chapter will review evolutionary psychology, discuss sex differences from this perspective, and detail how certain personality traits could

represent the psychological mechanisms behind interpersonal violence. Last, these predictions will be tested in a sample of American undergraduates.

A primer on evolutionary psychology

There are numerous reviews of evolutionary psychology (Buss, 2009; Confer *et al.*, 2010) and textbooks covering the field (Gaulin and McBurney, 2001; Barrett *et al.*, 2002); the interested reader is encouraged to seek them out for a more thorough review of evolutionary psychology. What is presented here is a brief overview geared towards the topic of interpersonal violence in particular.

Evolutionary psychology starts with a simple premise. Because human beings are biological organisms that are descendants down a long chain of evolution, spanning back at least 5 million years to the last common ancestor with chimpanzees (*Pan troglodytes*) and bonobos (*Pan paniscus*), and 47 million years to the last common ancestors between anthropoids (e.g. platyrrhine and strepsirrhine monkeys) and prosimians (e.g. lemuroids and lorisooids), called “Ida”, any understanding of human behavior—which is assumed to be the result of the interaction of the brain and the body—must be framed in evolutionary terms. Natural and sexual selection are thought to have shaped organisms’ brains and bodies, which will then produce certain behaviors geared towards maximizing inclusive fitness. For instance, natural selection appears to have shaped the eyes of nocturnal animals (e.g. *Panthera leo*) and the personality of some people (Jonason *et al.*, 2013c) to facilitate the active exploitation of a night-time niche.

In short, the meaning of life for an evolutionary psychologist is about increasing the number of offspring one leaves on the planet. There is little concern for sentiments of “being nice” for the sake of being nice. If “being nice” increases one’s offspring though helping others, then generosity and altruism will develop as evolutionarily stable strategies. However, not all individuals will adopt the same strategy inasmuch as the payoff schedules may not be conducive to their liking. If exploitation (Jonason *et al.*, 2012a,b), violence (Wilson and Daly, 1985), aggression (Archer, 2001), and even rape (Thornhill and Palmer, 2004) can increase the evolutionary bottom line, those can become evolutionarily stable strategies too.

Criminality of any kind likely conforms to what is known as balancing selection. That is, the number of criminals in a population must be smaller than the number of non-criminals to minimize competition among the criminals and to have a sufficient pool of victims who are actively trying to detect and punish the criminals (Jonason and Webster, 2012). Such an equilibrium is an emergent property of the competition among conspecifics over finite resources in the environment. Remember, one of Darwin’s main contributions was to remove the sentimentality from perceptions of the animal kingdom (e.g. lions lay down with lambs), highlighting the competitive nature of biological life.

There are strong objections to taking an evolutionary approach to such topics, all of which are specious, but are worth dispelling outright. One objection comes from the mistaken premise that individuals have freewill, or they act, think, and feel under conscious, volitional control. Freewill has been well dismantled elsewhere (see Harris, 2012), but the short of it is, if life is a series of random events then people have no freewill, and if one adopts a deterministic model of the world, again, there is no freewill in that our behaviors, feelings, and attitudes are determined by a stream of biological, hormonal, environmental, and physical preconditions and antecedent events that individuals (1) have no control over (e.g. genetic make-up) and (2) are barely aware of (e.g. testosterone). This idea of no freewill has major implications for our understanding of criminality in that it calls into question traditional ideas of blame and culpability. It also insults

the sentiments that most people have of (1) being in charge of their life and (2) the potential for rehabilitation. Imagine a person who commits murder—who is to blame? Their personality? Their genes? Their familial environment? Unfortunate circumstances? The person has no-to-minimal control over any of these.

Another objection is that researchers, clinicians, policy-makers, and lay-people have an implicit bias towards prosocial thinking (Jonason *et al.*, 2012a,b). That is, when a behavior is seen as bad for the group, it is seen as bad for the individual. Those who have this view of undesirable behavior implicitly take a group selection approach (Ardrey, 1970), a theory with little support and few advocates today. Instead, undesirable behavior may be solely—or selfishly—optimal for the individual in the context of their life (Dawkins, 1978). That is, despite the social or even personal costs to an individual, if a behavior or tendency confers reproductive advantages, those traits, no matter how socially undesirable they are, could be heritable “alternative” strategies.

Sex differences in interpersonal violence

Evidence suggests that men are more likely than women are to commit a variety of acts of interpersonal violence. Men score higher than women on measures of aggression (Björkqvist, 1994; Archer, 2001); commit rape more than women do, a pattern that holds up across species (Thornhill and Palmer, 2004); and commit violent crimes more than women do, especially between the ages of 16 and 30 (Wilson and Daly, 1985). The tendency for men to be more violent than women is a rather uncontroversial, descriptive claim. The controversy enters when one tries to explain such a pattern from an evolutionary perspective.

To make the evolutionary case, there are at least four lines of evidence one might look to. First, biological anthropology suggests that male primates (the order to which humans belong) are more violent than female primates, and most of that violence is about food, territory, and sex (Wrangham and Peterson, 1996). Second, interpersonally violent tendencies appear to be heritable (Viding, 2004). Third, the male-aggression tendency appears to be universal and robust to method variance (Archer, 2001). And last, interpersonal violence may increase reproductive success, as seen in antisocial personality traits (Jonason *et al.*, 2009); the appeal it has to women, especially when women are ovulating and in the short-term context (Aitken *et al.*, 2013); and the apparent increased preponderance of interpersonal violence and violent crime in young men (Wilson and Daly, 1985). In short, because men pay fewer costs and gain more from being violent than women do, it could have evolved as an evolutionarily stable strategy (Buss, 2009).

Dark Triad traits and interpersonal violence

The Dark Triad—narcissism, psychopathy, and Machiavellianism (Paulhus and Williams, 2002)—is composed of three socially undesirable and arguably interpersonally aversive traits (Kowalski, 2001) that appear to be heritable (Vernon *et al.*, 2008) and that have similar correlates across at least three different nations (Jonason *et al.*, 2013a). Psychopathy is noted for its characteristic callousness and limited empathy (Ali *et al.*, 2009) and criminality (Hart, 1998), including being a sexual offender (Serin *et al.*, 1994; Kerig and Stellwagen, 2010). Machiavellianism is noted for its characteristic glib social charm and manipulateness (Christie and Geis, 1970). Narcissism is noted for its characteristic senses of entitlement, superiority, vanity, and exploitiveness (Raskin and Terry, 1988) and is linked to partner-directed violence (Ryan *et al.*, 2008) and the acceptance of rape myths (Bushman *et al.*, 2003). Each trait is associated with different provocation to anger (Jones and Paulhus, 2010), and those high on the traits actively select volatile and

self-serving environments (Jonason *et al.*, 2011; Jonason and Schmitt, 2012), use violent mate retention tactics (Jonason *et al.*, 2010a) and coercive manipulation tactics (Jonason and Webster, 2012), and tend to lack humility, to be disagreeable, dishonest, and impulsive, and to lack empathy (Lee and Ashton, 2005; Jakobwitz and Egan, 2006; Jones and Paulhus, 2011; Jonason and McCain, 2012; Jonason *et al.*, 2013b).

Research on the Dark Triad has exploded in the past five years (see Jonason *et al.*, 2012a,b). One reason is its integration within evolutionary psychology, in particular life history theory (Wilson, 1975). From this perspective, personality traits are evolutionarily stable strategies designed by natural selection and shaped by environmental contingencies (e.g. harshness and instability in one's childhood; Brumbach *et al.*, 2009) to enable reproductive fitness (Rushton, 2004; Buss, 2009). Those high on these traits might have a *fast* life history strategy geared towards maximizing immediate returns over delayed outcomes, as would be predicted by the tradeoffs expressed in life history theory seen in future discounting, short-term/exploitive mating and social strategies, and impulsivity (Jonason *et al.*, 2009, 2010b, 2011; Jonason and Tost, 2010; Jones and Paulhus, 2011; McDonald *et al.*, 2011; Jonason and Schmitt, 2012; Jonason and Webster, 2012; Jonason *et al.*, 2012a). The Dark Triad traits could be maintained in the population if some positive fitness benefit is accrued (Mealey, 1995). As Buss (2009) suggests, "what is often disparaged as a maladaptive personality marked by impulsivity and lack of self-control instead can be conceptualized within life history theory as an adaptive stable strategy deployed in response to a realistic appraisal of a shorter time horizon" (p. 361; see also Wilson and Daly, 1985).

Despite these obvious potential sources of overlap between the Dark Triad traits and interpersonal violence, few attempts have been made to understand the relationship between the Dark Triad traits and interpersonal violence, especially in the general population. Beyond paradigmatic limitations, most work on the Dark Triad traits on behaviors such as aggression (Bushman *et al.*, 2003) and criminality (Hare, 1993) has not taken into account the overlap between each trait. Therefore prior links between narcissism and sexual violence could be spuriously linked by psychopathy. While most research paradigms would agree that psychopathy should be linked to interpersonal violence (Browne, 1993; Goodman *et al.*, 1993; Johnson, 1995; Kowalski, 2001; Ember and Ember, 2004), an evolutionary paradigm such as life history theory (Wilson and Daly, 1985; Jonason *et al.*, 2012b), one would predict that it is Machiavellianism that may be associated with the most forms of interpersonal violence because interpersonal violence can be one strategy used to get what one wants out of others (Figueredo *et al.*, 2012; Jonason and Webster, 2012). Therefore, when the variance among the three traits is partialled, it is Machiavellianism that should be associated with the most forms of interpersonal violence inasmuch as interpersonal violence might be a strategic interpersonal tactic (Archer, 2001). In contrast, narcissism, a trait more concerned with obtaining love and admiration from others (Raskin and Terry, 1988), should not be linked to interpersonal violence when any contamination from the other traits is removed. And last, psychopathy should be best linked to "darker" (i.e. more exploitive, more physically aggressive) forms of interpersonal violence (Rauthmann, 2012).

As mentioned above, men commit more interpersonal violence than women (Archer, 2001). Men also score higher on the Dark Triad traits however they are measured (Jonason *et al.*, 2009; Jonason and Webster, 2010), and cross-culturally in the U.S.A., Singapore, and Poland (Jonason *et al.*, 2013a). Taken together, this suggests that sex differences in interpersonal violence might be mediated by the Dark Triad. Prior work suggests interpersonal violence is a downstream correlate of traits such as psychopathy (Skeem and Cooke, 2010). This builds a theoretical model, suggesting not that men are necessarily more likely to commit interpersonal violence than women, but that it is those men who score more highly on the Dark Triad traits who will. That

is, the psychological dispositions underlying the Dark Triad traits facilitate interpersonal violence in men more than in women because of potential adaptive benefits linked to interpersonal violence. However, given the adaptive hypothesis offered by evolutionary psychologists for the Dark Triad, one should predict this facilitation to be not ubiquitous across types of interpersonal violence. The traits should more strongly facilitate interpersonal violence in contexts that have less risk and more reward (i.e. psychological abuse) and less strongly facilitate interpersonal violence in contexts with more risk than reward (i.e. sexual abuse and physical abuse).

Through an adaptationist perspective (Buss, 2009; Jonason *et al.*, 2012a,b), one might be able to provide a more nuanced and balanced perspective on traits such as the Dark Triad, and criminal behavior such as interpersonal violence. These predictions are put to a test in a sample of American college students. The predictions are examined in a general sense, as well as in the context of intimate relationships and, given the overlap between the Dark Triad and the Big Five personality traits (i.e. extraversion, agreeableness, emotional stability, conscientiousness, and openness; Paulhus and Williams, 2002; Jakobwitz and Egan, 2006), and overlap between these traits and interpersonal violence (Heaven, 1996), any contamination from the Big Five traits is controlled.

Method

Participants and procedure

Undergraduate psychology students ($N = 302$; 191 women, 111 men) aged 17–70 years ($M = 21.34$, $SD = 5.74$) from a mid-sized university in the southern U.S.A. completed a study in exchange for partial course credit. In terms of sexual orientation, 278 were heterosexual, 8 were homosexual, and 16 were bisexual. In terms of relationship status, 162 were single and 140 were involved in a serious relationship (i.e. seriously dating or married). 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—in the order reported below—that assessed the variables of interest. At the end of the study, participants were debriefed and thanked. Because of the potentially troubling and disturbing nature of the questions regarding interpersonal abuse, participants were provided with information about the university's counseling services.

Measures

To measure the Dark Triad traits, the Dark Triad Dirty Dozen (Jonason and Webster, 2010) was used. 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 an index of narcissism (Cronbach's $\alpha = 0.80$), Machiavellianism ($\alpha = 0.81$), psychopathy ($\alpha = 0.73$), and a composite Dark Triad index ($\alpha = 0.88$). Consistent with prior research, psychopathy was correlated with Machiavellianism ($r(302) = 0.61$, $P < 0.01$) and narcissism ($r(302) = 0.49$, $P < 0.01$) which was correlated with Machiavellianism ($r(302) = 0.61$, $P < 0.01$).

Experience with interpersonal conflict was measured using the interpersonal relations rating scale (Figueredo *et al.*, 2012). The scale measures psychological and physical aggression toward

members of the same or the opposite sex, and whether or not they were the participants' romantic partners. It is composed of 47 parallel questions for each target's sex, asking participants the frequencies with which they performed a series of acts in the last 12 months (0 = *never*; 6 = *daily*). Annualized frequencies were estimated by converting the five Likert-scaled response options to their numerical equivalents representing the expected number of occurrences per year (i.e. *never* = 0; *only once* = 1; *6 times* = 6; *12 times* = 12; *once a week* = 52; *daily* = 365). Because count data can be skewed, and in accordance with prior work (Figueredo *et al.*, 2012), these data were log-transformed— $\log(x + 1)$. There were five subscales that were created by averaging the corresponding items for each target's sex (totaling 10 measures; $\alpha \leq 0.85$) including coercive control, psychological abuse, physical abuse, escalated (i.e. life-threatening) abuse, and sexual abuse.

Participants who reported they were in a committed relationship completed the violence assessment index (VAI) and the injury assessment index (IAI) to assess specific methods of assault, objects used in assaults, and parts of the body to which assaults occurred (Dobash *et al.*, 1995). The VAI is composed of 26 items asking how frequently a given violent act was committed by the participant (1 = *never*; 6 = *11 or more times*) and whether or not it occurred in the past month (*yes/no*). The IAI is composed of 20 items asking how frequently a given injury occurred to their romantic partner (1 = *never*; 6 = *11 or more times*) and asks whether or not the participant's partner experienced that injury in the past month (*yes/no*). By averaging items on each scale, composites were created for the VAI ($\alpha = 0.80$) and the IAI ($\alpha = 0.93$). An overall composite of the IAI and VAI ($\alpha = 0.86$) was also created, as per prior work, by averaging the items, called the "overall violence index" (OVI; Shackelford *et al.*, 2005). Participants were also asked (*yes/no*) if they performed any of the acts or if their partners experienced any of the injuries; responses were summed for partner's experience with injuries and self-reported commission of intimate partner violence. Items intended for men only, and for those with children, were excluded to make the measures equivalent across the sample.

The ten-item personality inventory (TIPI; Gosling *et al.*, 2003) was used to measure the Big Five for statistical control. It asks two questions for each dimension. Participants were asked, for instance, how much (1 = *not at all*; 5 = *very much*) they think of themselves as "extraverted, enthusiastic" and "quiet, reserved" (reversed) to measure extraversion. Estimates of internal consistency returned low rates for extraversion ($\alpha = 0.54$), agreeableness ($\alpha = 0.30$), conscientiousness ($\alpha = 0.29$), neuroticism ($\alpha = 0.21$), and openness ($\alpha = 0.25$).

Results

Table 3.1 contains sex differences and similarities, and overall descriptive statistics. Men scored higher on all measures of the Dark Triad than women did, with the largest difference in psychopathy and the smallest in narcissism. Men scored higher than women did on all but two measures of interpersonal violence, significantly so in six cases (40 percent of the total number of assessments). The sex differences ranged from zero to medium in size. For instance, men, more than women, may use sexual abuse of opposite-sex others, but the sexes were identical in their use of coercive control of opposite-sex others.

The Dark Triad traits were positively correlated with virtually every manifestation of interpersonal violence (Table 3.2). The only correlations that were not significant were between narcissism and escalation of abuse and between narcissism and physical abuse towards both same- and opposite-sex targets. Multiple regressions, which controlled for the shared variance among the Dark Triad traits, revealed that Machiavellianism was the best predictor of interpersonal

Table 3.1 Descriptive statistics and sex differences in the Dark Triad and measures of interpersonal violence

<i>Dark Triad</i>	<i>Mean (SD)</i>		<i>t</i>	<i>d</i>	
	<i>Overall</i>	<i>Women</i>			<i>Men</i>
Psychopathy ^d	1.18 (0.75)	1.67 (0.64)	2.06 (0.84)	-4.44**	-0.51
Machiavellianism ^d	1.91 (0.77)	1.81 (0.72)	2.07 (0.84)	-2.84**	-0.33
Narcissism ^d	2.27 (0.81)	2.18 (0.78)	2.43 (0.84)	-2.64**	-0.30
Dark Triad composite ^d	2.00 (0.66)	1.89 (0.60)	2.19 (0.60)	-3.90**	-0.45
<i>Relational violence</i>					
Number of injuries partner suffered ^a	0.80 (1.68)	0.56 (1.24)	1.10 (2.09)	-2.10*	-0.36
Number of acts of violence ^b	0.68 (1.69)	0.28 (0.58)	1.20 (2.34)	1.50	-0.25
Injury assessment index ^c	1.10 (0.29)	1.06 (0.13)	1.19 (0.50)	-2.41*	-0.42
Violence assessment index ^c	1.13 (0.22)	1.13 (0.22)	1.12 (0.24)	0.17	0.03
Overall violence index ^c	1.12 (0.19)	1.10 (0.15)	1.16 (0.27)	-1.63	-0.28
<i>Violence towards same-sex others</i>					
Coercive control ^d	0.17 (1.68)	0.16 (0.21)	0.20 (0.21)	-1.47	-0.17
Psychological abuse ^d	0.34 (0.23)	0.29 (0.34)	0.42 (0.42)	-2.78**	-0.33
Physical abuse ^d	0.12 (0.38)	0.08 (0.26)	0.18 (0.35)	-2.50**	-0.29
Escalation of Abuse ^d	0.08 (0.30)	0.06 (0.23)	0.11 (0.27)	-1.79	-0.21
Sexual abuse ^d	0.07 (0.25)	0.05 (0.22)	0.11 (0.33)	-2.00*	-0.22

Violence towards opposite-sex others

Coercive control ^d	0.21 (0.27)	0.21 (0.23)	0.21 (0.30)	-0.04	0.00
Psychological abuse ^d	0.35 (0.25)	0.32 (0.34)	0.40 (0.43)	-1.59	-0.18
Physical abuse ^d	0.14 (0.37)	0.14 (0.30)	0.12 (0.35)	0.50	0.06
Escalation of abuse ^d	0.07 (0.32)	0.06 (0.23)	0.09 (0.26)	-0.86	-0.10
Sexual abuse ^d	0.10 (0.28)	0.06 (0.22)	0.17 (0.36)	-3.18**	-0.37

Notes: *d* = Cohen's *d* for effect size

* *P* < 0.05, ** *P* < 0.01

df = a, 87; b, 57; c, 140; d, 301

Table 3.2 Zero-order correlations and standardized regression coefficients using the Dark Triad to predict interpersonal violence

<i>Same-sex others</i>	<i>r</i> (β)			
	<i>Psychopathy</i>	<i>Machiavellianism</i>	<i>Narcissism</i>	<i>Dark Triad</i>
Coercive control ^d	0.35** (0.20**)	0.38** (0.31**)	0.21** (-0.08)	0.37**
Psychological abuse ^d	0.46** (0.27**)	0.50** (0.41**)	0.25** (-0.13)	0.47**
Physical abuse ^d	0.27** (0.21**)	0.26** (0.24**)	0.07 (-0.18*)	0.23**
Escalated abuse ^d	0.25** (0.18*)	0.26** (0.26**)	0.08 (-0.17*)	0.23**
Sexual abuse ^d	0.26** (0.17*)	0.28** (0.23**)	0.12* (-0.10)	0.26**
<i>Opposite-sex others</i>				
Coercive control ^d	0.36** (0.23**)	0.39** (0.24**)	0.22** (-0.04)	0.37**
Psychological abuse ^d	0.42** (0.19**)	0.49** (0.43**)	0.27** (-0.09)	0.46**
Physical abuse ^d	0.20** (0.11)	0.24** (0.24**)	0.08 (-0.13)	0.20**
Escalated abuse ^d	0.21** (0.12)	0.25** (0.27**)	0.07 (-0.16*)	0.21**
Sexual abuse ^d	0.31** (0.17*)	0.35** (0.30**)	0.17** (-0.09)	0.33**
<i>Relational violence</i>				
Number of injuries partner suffered ^a	0.09 (-0.08)	0.19 (0.12)	0.22* (0.20)	0.20
Number of acts of violence ^b	0.36** (0.59**)	0.09 (-0.12)	0.02 (-0.25)	0.02
Injury assessment index ^c	0.24** (0.18)	0.22* (0.14)	0.14 (0.14)	0.23**
Violence assessment index ^c	0.10 (0.06)	0.06 (-0.08)	0.13 (-0.08)	0.12
Overall violence index ^c	0.24** (0.17)	0.20* (0.06)	0.19* (0.06)	0.24**

Notes: * $P < 0.05$, ** $P < 0.01$
df = a, 87; b, 57; c, 140; d, 301

violence. Virtually all correlations with narcissism disappeared when taking into account the other two traits; making the positive, significant, zero-order correlations null or even significant and negative.

Table 3.2 also contains correlations between the Dark Triad traits and forms of relational violence as measured by the VAI, IAI, and OVI. First, Machiavellianism and psychopathy predicted injuries within relationships. Second, all three traits were correlated with overall violence. Third, when the shared variation among the Dark Triad traits was controlled, no significant associations were found. Fourth, no facets of the Dark Triad traits were correlated with the commission of violence.

A series of partial correlations were run, where all aspects of the Big Five were controlled while assessing the correlations between the Dark Triad traits and measures of interpersonal violence. None of the correlations remained significant when we assessed the IAI, VAI, and OVI; however, this may merely be a function of having too many predictors in the regression model coupled with a small number of people engaged in committed relationships. In contrast, most of the correlations among the Dark Triad traits and the interpersonal relations rating scales remained significant ($r_p = 0.23$ to 0.42 , $P < 0.05$). Psychopathy, Machiavellianism, and, by

extension, the Dark Triad composite were still correlated with the use of coercion, psychological abuse, and sexual abuse irrespective of the target's sex. In addition, psychopathy still correlated with the use of escalating abuse. In contrast, narcissism was correlated with the use of coercive control for both targets only after controlling for the Big Five.

Last, mediation was tested. When it came to interpersonal violence directed at same-sex others, the Dark Triad composite (Jonason *et al.*, 2009) fully mediated (i.e. the beta for participant's sex was no longer significant) the sex differences in reports of romantic partner's experience with injuries (Sobel's $z = 2.08$, $P < 0.05$) and the commission of psychological ($z = 3.47$, $P < 0.01$), physical ($z = 2.62$, $P < 0.05$), and sexual abuse ($z = 3.10$, $P < 0.01$). The Dark Triad composite also partially mediated (i.e. the beta for participant's sex decreased in magnitude but remained significant) the sex difference in the commission of sexual abuse directed towards opposite-sex others ($z = 3.31$, $P < 0.01$); the correlation between the participant's sex and this type of violence went from 0.18 ($t = 3.18$, $P < 0.01$) to 0.12 ($t = 2.03$, $P = 0.04$) after the Dark Triad ($\beta = 0.30$, $t = 5.26$, $P < 0.01$) was added to the model.

Discussion

There are good reasons to try, as a society, to discourage interpersonal violence. Interpersonal violence hurts those we care about, hurts society as a collective, and may hurt the perpetrator in terms of prison or retaliatory aggression. All of these have led well intentioned researchers to postulate a variety of viable causes, and thereby solutions, to the problems created by interpersonal violence. But the road to "hell" is paved in good intentions and, in the case of research, misguided, misinformed, or underspecified models of interpersonal violence (an arguable hell for scientists). Human beings are biological creatures subject to the same laws as the rest of the animal kingdom. That means their behavior and psychology must be framed within evolutionary biology to make any sense of the ultimate causes of phenomena of which society approves, such as generosity, and those on which society looks down, such as the Dark Triad and interpersonal violence. In this chapter, the nature of interpersonal violence has been framed using an adaptationist lens.

There is considerable evidence to lead one to expect that men should be more interpersonally violent than women (Björkqvist, 1994; Archer, 2001). While this effect was replicated, the inclusion of the Dark Triad in this study (1) provides some insights into the adaptive and psychological mechanisms that might account for interpersonal violence; and (2) suggests that men are not categorically more violent than women but, instead, it is those men with a certain disposition who are the most interpersonally violent. Based on evolutionary psychology, this might be because being interpersonally violent might be adaptive for men more than women (Wilson and Daly, 1985; Buss, 2009; Jonason *et al.*, 2009). This is especially noteworthy in that the links between interpersonal violence (1) appear to be mostly with a strategic (i.e. Machiavellianism), as opposed to impulsive (i.e. psychopathy) or vain (e.g. narcissism), disposition; and (2) are strongest where there is a fair balance of risk (e.g. retaliatory aggression; Boyd *et al.*, 2003) and (potential) reward (i.e. psychological abuse).

Much has been made out of the link between narcissism and interpersonal violence (Bushman *et al.*, 2003; Ryan *et al.*, 2008), but this study revealed that while the two are linked, those links appear to vanish upon the inclusion of the Machiavellianism and psychopathy. There are some possible reasons for this. It might be that narcissism does not have a unique correlation with interpersonal violence. Past research did not control for psychopathy and Machiavellianism. However, such a contention requires further work, given the usage of a new and concise

measure of the Dark Triad and specific measures of interpersonal violence. Each of the measures may have idiosyncrasies that could make the failure to find this link a methodological artifact. Alternatively, given the manner by which the correlations with narcissism vanished and even switched direction, suppression might be present.

Limitations and conclusions

The present research has at least four limitations. First, when assessing violence in romantic relationships, results were less revealing than when using the interpersonal relations rating scale. Although the Dark Triad traits predicted injuries experienced by their partners at the zero-order level, these associations were no longer significant when shared variance among the Dark Triad was controlled. This might be the result of diminished power, with only 140 participants reporting being in romantic relationships; cutting the sample nearly in half.

Second, much of the research on psychopathy tends to be done with clinical or criminal populations (Hare, 1993; Kowalski, 2001). In contrast, this study used a student population, thus the use of a measure designed for the assessment of psychopathy in college students was warranted (Jonason and Webster, 2010). This measure has the advantage of not being contaminated by items related to violence or criminality (Skeem and Cooke, 2010) so there is little concern about predictor–criterion overlap. However, the reliance on college students may present some limitations because they might have less experience with interpersonal violence and with romantic and sexual relationships.

Third, only direct violence and its consequences were assessed. Women may use indirect violence more than men do (Björkqvist, 1994). It is possible that the sex difference in the use of indirect violence might be mediated by the Dark Triad, suggesting that the psychological system in women which facilitates the adoption of this form of violence is tapped by the Dark Triad. Moreover, this study assessed only relational violence (i.e. violence in interpersonal relationships) as opposed to typological forms of violence. For instance, instrumental aggression (Bushman and Anderson, 2001), that is, aggression with a purpose as opposed to outright hostility, might be correlated with the Dark Triad. Narcissists respond with aggression to ego-threats whereas psychopaths respond to physical provocations (Jones and Paulhus, 2010), both of which may be forms of instrumental aggression; the first is instrumental in keeping one's positive self-image and the second is instrumental for protection.

Fourth, there are some notable limitations of the measures used. Both the Dirty Dozen and the TIPI are brief measures and may have limitations as a result. In the case of the TIPI, this may be a small problem given its inclusion to reduce the jangle fallacy—measuring the same thing twice—as used in prior research (Jonason *et al.*, 2011). The Dirty Dozen has been criticized for its brevity, homogeneity, and limited construct validity (Miller *et al.*, 2012), all of which might be reasonable given its extreme brevity. Nevertheless, psychometric work (Jonason and Webster, 2010; Jonason and Luévano, 2013; Webster and Jonason, 2013) and theoretical studies (Jonason *et al.*, 2011; Jonason and Webster, 2012) reveal its favorable qualities and utility. Relatedly, despite the detection of significant and predicted correlations, there were low rates of interpersonal violence, suggesting participants are experiencing or committing little interpersonal violence, but this may create range restriction. Nevertheless, future work would benefit from using alternative measures to validate and replicate the findings here (e.g. the decrease in the effect for narcissism after controlling for the other two Dark Triad traits).

In this study, different forms of interpersonal violence, in general and in the context of romantic relationships, were assessed across the sexes and in relation to the Dark Triad traits. In

accordance with work on social perception (Rauthmann, 2012), psychopathy and Machiavellianism were “darker” than narcissism inasmuch as they had more links to interpersonal violence. However, as opposed to the Dark Triad being seen as a dysfunction (Kowalski, 2001), an evolutionary approach would argue that such traits might be adaptive (Buss, 2009). In particular, results from Machiavellianism reveal that interpersonal violence might be one strategic means by which individuals get what they want in the world. In addition, mediation results suggest that men who are high on the Dark Triad might be afforded greater fitness via exploitive methods (Jonason *et al.*, 2012a,b). In short, the degree to which the Dark Triad traits and interpersonal violence are “bad” is a function of the perspective one takes.

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References

- Aitken, S., Lyons, M., and Jonason, P.K. (2013) ‘Dads or cads? Women’s strategic decisions in the mating game’, *Personality and Individual Differences*, 55: 118–122.
- Ali, F., Amorim, I.S., and Chamorro-Premuzic, T. (2009) ‘Empathy deficits and trait emotional intelligence in psychopathy and Machiavellianism’, *Personality and Individual Differences*, 47: 758–762.
- Archer, J. (2001) ‘A strategic approach to aggression’, *Social Development*, 10: 267–271.
- Ardrey, R. (1970) *The Social Contract*, London: Collins.
- Bandura, A. (1983) ‘Self-efficacy determinants of anticipated fears and calamities’, *Journal of Personality and Social Psychology*, 45: 464–468.
- Barrett, L., Dunbar, R.I.M., and Lycett, J. (2002) *Human Evolutionary Psychology*, Princeton, NJ: Princeton University Press.
- Berkowitz, L., Corwin, R., and Heironimus, M. (1962) ‘Film violence and subsequent aggressive tendencies’, *Public Opinion Quarterly*, 27: 217–229.
- Björkqvist, K. (1994) ‘Sex differences in physical, verbal, and indirect aggression: a review of recent research’, *Sex Roles*, 30: 177–188.
- Boyd, R., Gintis, H., Bowles, S., and Richerson, P.J. (2003) ‘The evolution of altruistic punishment’, *Proceedings of the National Academy of Sciences, USA*, 100: 3531–3535.
- Browne, A. (1993) ‘Violence against women by male partners: prevalence, outcomes, and policy implications’, *American Psychologist*, 48: 1077–1087.
- Brumbach, B.H., Figueredo, A.J., and 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.
- Bushman, B.J. and Anderson, C.A. (2001) ‘Is it time to pull the plug on hostile versus instrumental aggression dichotomy?’, *Psychological Review*, 108: 273–279.
- Bushman, B.J., Bonacci, M.A., van Dijk, M., and Baumeister, R.F. (2003) ‘Narcissism, sexual refusal, and aggression: testing a narcissistic reactance model of sexual coercion’, *Journal of Personality and Social Psychology*, 84: 1027–1040.
- Buss, D.M. (2009) ‘How can evolutionary psychology explain personality and individual differences?’, *Perspectives in Psychological Science*, 4: 359–366.
- Christie, R. and Geis, F.L. (1970) *Studies in Machiavellianism*, New York: Academic Press.
- Confer, J.C., Easton, J.A., Fleischman, D.S., Goetz, C.D., Lewis, D.M., Perilloux, C., and Buss, D.M. (2010) ‘Evolutionary psychology: controversies, questions, prospects, and limitations’, *American Psychologist*, 65: 110–126.
- Dawkins, R. (1978) *The Selfish Gene*, London: Oxford University Press.
- Dobash, R.E., Dobash, R.P., Cavanagh, K., and Lewis, R. (1995) ‘Evaluating criminal justice programmes for violent men’, in R.E. Dobash, R.P. Dobash, and L. Noaks (eds.), *Gender and Crime*, Cardiff, UK: University of Wales Press, pp. 358–389.
- Ember, C. and Ember, M. (2004) ‘War, socialization, and interpersonal violence: a cross-cultural study’, *Journal of Conflict Resolution*, 38: 620–646.

- Figueredo, A.J., Gladden, P.R., and Beck, C.J.A. (2012) 'Intimate partner violence and life history strategy', in A. Goetz and T. Shackelford (eds.), *The Oxford Handbook of Sexual Conflict in Humans*, New York: Oxford University Press.
- Gaulin, S.J.C. and McBurney, D.H. (2001) *Psychology: An Evolutionary Approach*, Upper Saddle River, NJ: Prentice Hall.
- Goodman, L.A., Koss, M.P., Fitzgerald, L.F., Russo, N.F., and Keita, G.P. (1993) 'Male violence against women: current research and future directions', *American Psychologist*, 48: 1054–1058.
- Gosling, S.D., Rentfrow, P.J., and Swann, W.B. Jr. (2003) 'A very brief measure of the Big-Five personality domains', *Journal of Research in Personality*, 37: 504–528.
- Hare, R.D. (1993) *Without Conscience: The Disturbing World of the Psychopaths Among Us*, New York: Pocket Books.
- Harris, S. (2012) *Freewill*, New York: Free Press.
- Hart, S.D. (1998) 'Psychopathy and risk for violence', in *Psychopathy: Theory, Research and Implications for Society*, Dordrecht, Netherlands: Springer, pp. 355–373.
- Heaven, P.C.L. (1996) 'Personality and self-reported delinquency: analysis of the "Big Five" personality dimensions', *Personality and Individual Differences*, 20: 47–54.
- Jakobwitz, S. and Egan, V. (2006) 'The dark triad and normal personality traits', *Personality and Individual Differences*, 40: 331–339.
- Johnson, M.P. (1995) 'Patriarchal terrorism and common couple violence: two forms of violence', *Journal of Marriage and Family*, 57: 283–294.
- Jonason, P.K. and 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. and McCain, J. (2012) 'Using the HEXACO model to test the validity of the Dirty Dozen measure of the Dark Triad', *Personality and Individual Differences*, 53: 935–938.
- Jonason, P.K. and 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. and Tost, J. (2010) 'I just cannot control myself: the Dark Triad and self-control', *Personality and Individual Differences*, 49(6): 611–615.
- Jonason, P.K. and Webster, G.D. (2010) 'The Dirty Dozen: a concise measure of the Dark Triad', *Psychological Assessment*, 22, 420–432.
- Jonason, P.K. and 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., Li, N.P., Webster, G.W., and Schmitt, D.P. (2009) 'The Dark Triad: facilitating short-term mating in men', *European Journal of Personality*, 23: 5–18.
- Jonason, P.K., Li, N.P., and Buss, D.M. (2010a) 'The costs and benefits of the Dark Triad: implications for mate poaching and mate retention tactics', *Personality and Individual Differences*, 48: 373–378.
- Jonason, P.K., Koenig, B.L., and Tost, J. (2010b) 'Living a fast life', *Human Nature*, 21(4): 428–442.
- Jonason, P.K., Valentine, K.A., Li, N.P., and 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., Luévano, V.X., and Adams, H.M. (2012a) 'How the Dark Triad traits predict relationship choices', *Personality and Individual Differences*, 53: 180–184.
- Jonason, P.K., Webster, G.W., Schmitt, D.P., Li, N.P., and Crysel, L. (2012b) 'The antihero in popular culture: a life history theory of the Dark Triad', *Review of General Psychology*, 16: 192–199.
- Jonason, P.K., Li, N.P., and Czarna, A.Z. (2013a) 'Quick and dirty: some psychosocial costs associated with the Dark Triad in three countries', *Evolutionary Psychology*, 11: 172–185.
- Jonason, P.K., Lyons, M., Bethell, E., and Ross, R. (2013b) 'Different routes to limited empathy in the sexes: examining the links between the Dark Triad and empathy', *Personality and Individual Differences*, 54: 572–576.
- Jonason, P.K., Jones, A., and Lyons, M. (2013c) 'Creatures of the night: chronotypes and the Dark Triad traits', *Personality and Individual Differences*, 55(5): 538–541.
- Jones, D.N. and Paulhus, D.L. (2010) 'Different provocations trigger aggression in narcissists and psychopaths', *Social Psychological and Personality Science*, 1: 12–18.
- Jones, D.N. and Paulhus, D.L. (2011) 'The role of impulsivity in the Dark Triad of personality', *Personality and Individual Differences*, 51: 679–682.
- Kerig, P.K. and Stellwagen, K.K. (2010) 'Roles of callous-unemotional traits, narcissism, and Machiavellianism in childhood aggression', *Journal of Psychopathology and Behavioral Assessment*, 32: 343–352.

- Koss, M.P. (1992) 'Defending date rape', *Journal of Interpersonal Violence*, 7: 122–126.
- Kowalski, R.M. (2001) *Behaving Badly: Aversive Behaviors in Interpersonal Relationships*, Washington, DC: American Psychological Association.
- Lee, K. and 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.
- McDonald, M.M., Donnellan, M.B., and Navarrete, C.D. (2011) 'A life history approach to understanding the Dark Triad', *Personality and Individual Differences*, 52: 601–605.
- Mealey, L. (1995) 'The sociobiology of sociopathy: an integrated evolutionary model', *Behavioral and Brain Sciences*, 18: 523–599.
- Miller, J.D., Few, L.R., Seibert, L.A., Watts, A., Zeichner, A., and Lynam, D.R. (2012) 'An examination of the Dirty Dozen measure of psychopathy: a cautionary tale about the costs of brief measures', *Psychological Assessment*, 24: 1048–1053.
- Paulhus, D.L. and Williams, K.M. (2002) 'The Dark Triad of personality: narcissism, Machiavellianism, and psychopathy', *Journal of Research in Personality*, 36: 556–563.
- Raskin, R.N. and 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.
- Rauthmann, J.F. (2012) 'The Dark Triad and interpersonal perception: similarities and differences in the social consequences of narcissism, Machiavellianism, and psychopathy', *Social Psychological and Personality Science*, 3: 487–496.
- Rushton, J.P. (2004) 'Differential K theory: the sociobiology of individual and group differences', *Personality and Individual Differences*, 6: 441–452.
- Ryan, K.M., Weikel, K., and Sprechini, G. (2008) 'Gender differences in narcissism and courtship violence in dating couples', *Sex Roles*, 58: 802–813.
- Serin, R.C., Malcolm, P.B., Khanna, A., and Barbee, H.E. (1994) 'Psychopathy and deviant sexual arousal in incarcerated sexual offenders', *Journal of Interpersonal Violence*, 9: 3–11.
- Shackelford, T.K., Goetz, A.T., Buss, D.M., Euler, H.A., and Hoier, S. (2005) 'When we hurt the ones we love: predicting violence against women from men's mate retention tactics', *Personal Relationships*, 12: 447–463.
- Skeem, J.L., and Cooke, D.J. (2010) 'Is criminal behavior a central component of psychopathy? Conceptual directions for resolving the debate', *Psychological Assessment*, 22: 433–445.
- Thornhill, R. and Palmer, C.T. (2004) 'Evolutionary life history perspective on rape', in C. Crawford and C. Salmon (eds.), *Evolutionary Psychology, Public Policy, and Personal Decisions*, Mahwah, NJ: Lawrence Erlbaum, pp. 249–274.
- Vernon, P.A., Villani, V.C., Vickers, L.C., and Harris, J.A. (2008) 'A behavioral genetic investigation of the Dark Triad and the Big 5', *Personality and Individual Differences*, 44: 445–452.
- Viding, E. (2004) 'On the nature and nurture of antisocial behavior and violence', *Annals of the New York Academy of Science*, 1036: 267–277.
- Webster, G.D., and 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.
- Wilson, E.O. (1975) *Sociobiology: The New Synthesis*, Cambridge, MA: Harvard University Press.
- Wilson, M. and Daly, M. (1985) 'Competitiveness, risk-taking, and violence: the young male syndrome', *Ethology and Sociobiology*, 6: 59–73.
- Wrangham, R. and Peterson, D. (1996) *Demonic Males: Apes and the Origins of Human Violence*, New York: Houghton Mifflin.