

Abstract

The traits that comprise the Dark Triad of personality (psychopathy, Machiavellianism, and narcissism) are overlapping but distinctive. Although pronounced differences between men and women exist with respect to reproductive strategies, little attention has been paid to these differences in Dark Triad research. Latent variable techniques in an adult sample examined the relationships among Dark Triad and different aspects of sociosexuality for men and women separately. There was a straightforward relationship between the Dark Triad and sociosexuality among women such that the Dark Triad common core best predicted short-term sociosexuality. However, the relationship was more complicated among men, as indicated by a poor model fit to the common factor model. Thus, an alternative theoretical model was proposed where Machiavellian men were negatively associated with short-term sexual behavior and psychopathic men were negatively associated with a long-term mating. In sum, the present paper calls for further attention to be paid to sex differences in Dark Triad research.

Keywords: Dark Triad; Sociosexuality; Mating Strategies; Life History Strategy; psychopathy; Machiavellianism; narcissism

Differential reproductive behavior patterns among the Dark Triad.

The “Dark Triad” refers to three commonly studied personality traits in the realm of interpersonal harm: psychopathy, Machiavellianism, and narcissism (Paulhus & Williams, 2002). All three Dark Triad traits have been associated with unrestricted sociosexuality, in one form or another (Harms, Williams, & Paulhus, 2001; Jonason, Li, Webster, & Schmitt, 2009; McHoskey, 2001; Reise & Wright, 1996). In spite of these findings, little research has addressed the differences that may exist between men and women with regards to Dark Triad and sociosexuality.

Sex based differences in mating

Evolutionary psychologists have extensively documented the existence of sex-based reproductive differences (Buss & Schmitt, 1993; Gangestad & Simpson, 2000). Specifically, because men can inseminate an infinite number of partners, and women bare the minimum burden of gestation, differential patterns of reproduction and mating-strategies exist between men and women (Buss, 1989). As a result, men are more likely than women to pursue short-term, and at times extra-dyadic, relations (Greeley, 1994; Laumann, 1994; Wiederman, 1997) because these types of relationships will maximize their reproductive success. Women, on the other hand, are more likely to seek out long-term partnerships that are focused on securing resources over a longer period of time (Trivers, 1972). In addition to biological differences, cultural variables have a profound impact on sociosexuality as well (Schmitt, 2005). Demanding reproductive environments display larger sex differences in sociosexuality than environments with more political and economic gender equality (Schmitt, 2005).

Although broad differences exist between men and women, Buss and Schmitt (1993) documented that there is substantial variation within both men and women with respect to short- vs. long-term orientation. Many of these short- vs. long-term shifts are altered by the presence or absence of other traits within an organism (Gangestad & Simpson, 2000) or conditions in one's developmental environment (Ellis, 2004). Research on *Life History Strategy* (LHS; Figueredo et al., 2005) has argued that these shifts form cohesive patterns of behavior that can be observed in one's attachment to romantic partners and investment in potential offspring. Shifting towards a short-term LHS creates predictable behavioral patterns in both males and females (Figueredo et al., 2006). In girls, short-term shifts accelerate pubertal timing in order to meet the potential needs of shorter lifespan and increased reproductive output of offspring (Ellis, 2004). In boys, increased aggression and risk taking increase in order to meet the increased needs of mating effort and finding multiple partners (Ellis et al., 2012).

In sum, men benefit more directly from short-term sexual encounters (Buss, 1994), and are not perceived as negatively in our culture when they do (Crawford & Popp, 2003). Women, on the other hand, pay a higher cost for short-sighted mating and are often perceived negatively as a result of short-term sexual engagements. Thus, psychological traits that are associated with not caring about cultural norms and being short-sighted might have a relationship with a fast LHS.

Overview of the Dark Triad and mating

Psychopathy, however, is one trait that has been directly associated with a fast LHS (Mealey, 1995). According to Mealey, psychopathy is a cheater strategy that emerged from frequency dependent selection. In other words, the more cooperators there are in a given

environment, the more beneficial it is to be a cheater (such as a psychopath). Jonason, Keoning, & Tost (2010) further supported Mealey's theory, finding that subclinical psychopathy has a strong association with a fast LHS (Mealey, 1995). Consistent with theory on LHS, psychopathy is linked with short-sighted approaches to relationships (Cleckley, 1941), poor attachment with loved ones (Mack, Hackney, & Pyle, 2011) and a reckless and erratic lifestyle (Williams, Hare, & Paulhus, 2007).

Psychopathy is just one of three Dark Triad traits, which are considered manipulative or "cheater" strategies. Machiavellianism is a cheater strategy (Wilson, Near, & Miller, 1996) that is linked with direct manipulation (Christie & Geis, 1970). Narcissism is a cheater strategy, although their means of deception often involves self-deception (von Hippel & Trivers, 2011) rather than direct manipulation. Note, however, that narcissism has been linked with direct interpersonal manipulation as well (Jones & Figueredo, 2013). All three traits of the Dark Triad have dispositions that might make them seem more likely to accumulate a larger number of lifetime sexual partners. For example, narcissistic individuals are charming, extraverted, open to experience, overconfident, and come across well in first encounters (Back, Schmukle, & Egloff, 2010; Paulhus, 1998), which are all aspects linked with increased sexual success (Eysenck, 1976). Further, narcissistic individuals have grandiose self-perceptions, however those self-perceptions require never-ending praise (Morf & Rhodewalt, 2001). Because social reinforcement can come in the form of short-term as well as long-term relationship pursuits, individuals high in narcissism may vigorously pursue all types of relationships.

On the other hand, individuals high in Machiavellianism are manipulative, and such manipulation has also been linked with accumulating sexual partners over the lifespan (McHoskey, 2001). Finally, individuals high in psychopathy are erratic and impulsive

(Newman, 1987), as well as coercive and antisocial (Camilleri, Quinsey, & Tapscott, 2009; Jones & Olderbak, 2014), leading to more sexual partners. Thus, at first blush it would appear that the Dark Triad traits would be linked to increased sexual partners over the lifespan. However, this assertion is not necessarily synonymous with having a *short-term* relationship orientation. For example, one may engage in behaviors such as *serial monogamy* that are not the same as having short-term encounters, but do eventually lead to a greater number of lifetime partners (Mulder, 2009). Moreover, it should be noted that *willingness* to engage in short-term sexual encounters is not redundant with being *motivated* act upon that willingness (Penke & Asendorpf, 2008). For example, Machiavellian individuals may have positive *attitudes* towards short-term encounters, but exercise caution with respect to their actual behaviors.

This last assertion stems from the fact that Machiavellianism has no unique relationship with impulsivity or short term thinking (Jones & Paulhus, 2011). More so than any other Dark Triad trait, Machiavellian individuals are sensitive to bottom-line outcomes (Jones & Paulhus, 2009), as evidenced by the fact they are unlikely to deceive if the chance of getting caught is high (Cooper & Peterson, 1980; Nathanson, Paulhus & Williams, 2006). Further, Machiavellian individuals do consider long-term consequences and generally forgo selfish behavior when it carries long-term costs (Jones, 2014). Thus, a short-term sexual approach to relationships would be inconsistent with the construct of Machiavellianism. However, it should be noted that Machiavellian individuals are flexible (Bereczkei, 2015) which suggests they might direct their manipulation towards whatever relationship they are pursuing (e.g., long-term, short-term, extra-dyadic). Further, women high in Machiavellianism may selectively pursue extra dyadic relationships when advantageous, while maintaining a primary relationship (Jones & Weiser, 2014). Because short-term sexual behaviors are often antithetical to caution, reputation, and

other aspects of strategic behavior, Machiavellianism should be negatively associated with short-term sexual behaviors (Jones & Paulhus, 2009).

On the other hand, sexual promiscuity and short-term thinking are part of the definition of psychopathy (Hare, 2003; Lilienfeld & Andrews, 1996). The psychopathic lack of impulse control and disregard for interpersonal or societal rules leads psychopathic individuals free to utilize opportunistic tactics (even coercion) that would lead to a larger number of short-term sexual experiences (e.g., Eisenberg, Campbell, Mackillop, Lum, & Wilson, 2007; Simpson, Wilson, & Winterheld, 2004). These situations may even occur when they come at a cost to their reputation or well-being. In particular, individuals high in psychopathy are more likely to use alternative sexual strategies such as harassment, stalking, assault, and rape, which would also lead to an increase in short-term sexual encounters (e.g., Camilleri, Quinsey, & Tapscott, 2009; Harris, Rice, Hilton, Lalumière, & Quinsey, 2007; Jones & Olderbak, 2014; Lalumière & Quinsey, 1996). The majority of research on psychopathy has focused on men (Dolan, & Völlm, 2009). However, some smaller studies focusing on psychopathy in women suggests its relation to sociosexuality may be different. For example, a study comparing the prevalence of aspects of psychopathy in men and women found that psychopathic women scored higher on 'promiscuous sexual behavior' than their male counterparts (Grann, 2000). Finally, like psychopathy, the egotistical and grandiose self-perceptions of narcissism may also be linked with short-term sexual behavior.

Nevertheless, Jonason, Webster, Schmitt, Li, and Crysel (2012) argued that all three Dark Triad traits are imperfect indicators of a common short-term strategy. In their research on the Dark Triad and sociosexuality, Jonason and colleagues (2009) found that a common factor model of the Dark Triad mediated the relationship between biological sex and short-term mating. Their

conclusion was that the Dark Triad traits reflect a common strategy evolved to aid men in short-term mating. However, there were several limitations to their structural approach. First, they only entered the three Dark Triad means into their latent variable model, which exhausted the degrees of freedom in the variance/covariance matrix (see Furnham, Richards, Rangel, & Jones, 2014 for full discussion). Second, even if the model was properly specified, men and women were combined in these structural models. Subsequent research has unfortunately failed to separate men and women in any latent variable procedures (e.g., Jonason, Valentine, & Harbeson, 2011).

A manipulative disposition is consistent with short-term sexual strategies – as false signaling and deception seems to compliment short-term sexual aspirations (Rowe, Vazsonyi, & Figueredo, 1997; Seto, Lalumière, & Quinsey, 1995). Moreover, such deception or manipulation would help (particularly men) in achieving these encounters (Jonason et al., 2009). Thus, the idea that the Dark Triad traits are linked with short-term sexual behaviors initially makes sense given that callous-manipulative traits would thrive in short-term encounters. However, this link may only be true for all three Dark Triad traits when there are no consequences for these short-term encounters. Thus, the argument that there is a direct link from the Dark Triad to short-term sexual behavior may be an oversimplification, given that behaviors do not occur in a vacuum and many decisions do have long-term consequences. Thus, the goal of the present research is to determine how the relation between Dark Triad and sociosexuality facets may differ for men and women. In sum, sex differences have not been systematically examined with respect to the assertion that the Dark Triad are uniformly short-term in their sexuality. Further, to date, most research examining the Dark Triad and sexual behavior has combined men and women (e.g., Jonason, Li, & Buss, 2010b; Jonason, & Kavanagh, 2010).

In sum, there is a dearth of research on the Dark Triad and reproductive behavior when it comes to examining men and women separately. Specifically, no research we know of has examined structural models of men and women separately with respect to sociosexuality. Nevertheless, men and women are not driven to accumulate lifetime sexual partners in the same way (Buss & Schmitt, 1993). Thus, given the differences among the traits, the Dark Triad may motivate men vs. women to approach sexual relationships in different ways. To address this gap, we examined how the Dark Triad traits predicted different aspects of sociosexuality across men and women separately. First, we examined gender differences in the form of interactions with the Dark Triad Traits to predict different aspects of sociosexuality. Next, we tested two competing models. The first was a common factor model based on the assumptions made by Jonason and colleagues that all three Dark Triad traits directly predict short-term mating. The second is an alternative model that was built around the theoretical perspectives and predictions above. Specifically, these predictions are that Machiavellianism would have a negative link with short-term sexual behaviors and that psychopathy would have a negative link with long-term relationship orientation.

Method

Participants

A total of 758 participants volunteered on Amazon's MTurk. However, 95 failed attention checks (e.g., "I breathe oxygen every day"), and were eliminated leaving a total of 663 participants (239 men, 424 women; Mean age = 30.73, SD = 10.31; 71% European Heritage, 14% East Asian, 5% Latino/Latina, 4% African heritage 6% other; 71% in a romantic relationship). Mechanical Turk is a valuable source of research subjects and produces data that

matches student sample reliability, but surpasses student samples in variety and variability (Burhmester, Kwang, & Fosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010).

Measures

Unless otherwise indicated, all Likert items were assessed on a scale of 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) with appropriate items reverse scored, and were averaged into composites.

Psychopathy. Psychopathy was assessed using the Self-Report Psychopathy Scale (SRP; Paulhus, Neumann, & Hare, in press). The SRP is a 64-item assessment consisting of four inter-correlated facets: Interpersonal Manipulation (IPM), Callous Affect (CA), Erratic Lifestyle (ELS), and Antisocial Behavior (ASB). The SRP total score was internally consistent ($\alpha = .91$).

Machiavellianism. To measure Machiavellianism, the popular MACH-IV was used (Christie & Geis, 1970). All 20 items were averaged into a composite, which was internally consistent ($\alpha = .83$). The MACH-IV remains the most widely cited instrument for assessing Machiavellianism (Jones & Paulhus, 2009).

Narcissism. Narcissism was measured using the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979). The NPI uses a 40-item forced-choice format where subjects choose which item (A or B) is more descriptive of the self. Items were scored as follows: Pro-narcissism item = 1, non-narcissism item = 0. The total score was internally consistent ($\alpha = .87$). The correlations among all three Dark Triad traits (split by gender) can be found in Table 2.

Multidimensional Sociosexual Orientation Inventory (MSOI). To measure reproductive strategies, the MSOI was used (Jackson & Kirkpatrick, 2007). The MSOI consists of 25 items

that break into three factors of sociosexuality: Short-term attitudes (STA), long-term attitudes (LTA), and sociosexual behaviors (SEXB). The STA and LTA subscales were each 10 items, and those items were merged to form composites that were internally consistent (α 's > .90). The five items (*number of lifetime partners, number of partners in a year, number of partners on one occasion, number of desired future partners, frequency of sexual fantasies*) were all scored from 0 to 11+ and standardized prior to averaging ($\alpha = .73$). However, it should be noted that number of desired future partners and frequency of sexual fantasies are not behaviors (e.g., Penke & Asendorpf, 2008). Further, number of lifetime partners is contaminated by age (i.e., the more you have lived, the more time you have had to accumulate sexual partners). Pursuant to these concerns, we analyzed a two-item sociosexual behavior composite, which consisted of number of sex partners in the past year and number of sex partners on one occasion ($\alpha = .58$). The results were relatively unchanged regardless of approach. Therefore, we scored the MSOI with the full 25 items, due to the higher internal consistency for SEXB. The correlations of all MSOI scales can be found in Table 3, and the correlations of the Dark Triad with the dimensions of the MSOI can be found in Table 4.

Results

We first sought to determine if sex differences were relevant. To examine this question in a latent variable framework we compared models with and without sex interactions. The interaction terms were created following closely the procedures outlined in the *Mplus* user's guide (Muthén & Muthén, 1998), which uses quasi-maximum likelihood (QML) as the default approach for computing interactions (also see Klein & Muthén, 2002; Marsh, Wen, & Hau, 2004). Our first model was a baseline model with the latent factor of the Dark Triad (Machiavellianism, narcissism, and psychopathy) and sex (male vs. female) both predicting the

latent factor of sociosexuality (STA, SEXB, and the inverse of LTA). Our second model added an interaction between sex and the latent Dark Triad factor predicting STA, LTA, and SEXB separately. Examining the output, there was a marginal interaction in predicting STA ($p = .061$). Thus, we re-ran another model with just the Dark Triad x sex interaction predicting STA. The interaction was significant ($p = .046$). However, in order to conclude that sex differences matter, the inclusion of this interaction should improve overall model fit. Although *Mplus* does not provide fit indices for comparison for latent variable interaction models, one can determine whether an interaction adds significantly to a model by comparing the *Bayesian Information Criterion* (BIC) of the two models (Henderson, Dakof, Schwartz, & Liddle, 2006). In this case, the model with the lower score has a better fit. The BIC for the baseline model was 4631.841 and the BIC for the interactive model was 4629.722. Thus, although the effect was small, including a gender interaction did improve the model. Thus, we analyzed men and women separately.

To assess fit across the remaining models, we used cut-offs outlined by Marsh and colleagues (2004). Further, Cheung and Rensvold (2002) argue that assessing fit in latent variable modeling, sampling from incremental indexes like the Comparative Fit Index (CFI) or the Tucker-Lewis Index (TLI), and other forms of model fit such as the Root Mean Square Error of Approximation (RMSEA). Our cutoffs were as follows: RMSEA - .08 or lower; TLI/CFI - .90 or higher. When comparing latent models, Little (1997) outlines four criteria for determining significant differences: (a) the model should have acceptable fit, (b) the difference in TLI should be greater than .05, (c) indexes of local misfit are uniformly distributed, and (d) the constrained model is more parsimonious.

For women, the Chi-Square fit index fit the data ($\chi^2 = 7.81, p = .450$), suggesting an alternative model was not necessary. Thus, the results for the model for women replicated previous research (Figueredo et al., 2015; Jonason et al., 2011; Jonason et al., 2009), indicating that the common factor of the Dark Triad was the best model for explaining sociosexuality in women (see Figure 1). Next we tested a common factor model for men. The common factor model, however, was not a good fit ($\chi^2 = 40.26, p < .001$; RMSEA = .129, SRMR = .065; CFI/TLI = .86/.75). Thus, we moved on to test the alternative model as specified by the theory above. Specifically, Machiavellianism should have a unique and negative path with short-term sexual behaviors and psychopathy should have a unique path (in this case positive, because Long-Term Attitudes is reversed for the SEM) with LTA. Although the overall fit of the alternative model was borderline, the fit was an improvement over the common factor model ($\chi^2 = 18.28, p = .006$; RMSEA = .09, SRMR = .046; CFI/TLI = .95/.87), and the TLI improved more than +.05, suggesting that the alternative model was the more parsimonious model (see Figure 2).

Discussion

The Dark Triad of personality is a fascinating area of research. Yet, small sample sizes and the practice of combining men and women have masked important differences (Jonason et al., 2009; 2011). Further, the idea of a Dark Triad “composite” is statistically (e.g., Furnham et al., 2014) as well as empirically (Glenn & Sellbom, 2015) inappropriate. The purpose of this paper was to clarify these relationships and to take into account gender differences that affect the relationship each Dark Triad trait has with different aspects of sociosexuality. For women, the Dark Triad traits appear to have indistinguishable relationships with different facets of sociosexuality. However, among men, beyond the common core, the Dark Triad traits are (a)

not reflections of the same sexual or social strategy and (b) cannot be combined into a composite (Glenn & Sellbom, 2015).

The literature on Machiavellianism seems to indicate that such individuals are more interested in money and power than they are in having many sexual partners (Wilson et al., 1996). Likewise, individuals high in narcissism are more interested in social praise than many sexual partners (Morf & Rhodewalt, 2001). Only individuals high in psychopathy seem predisposed to numerous short-term sexual partners, and they are the only ones that are perhaps even adapted for it (Mealey, 1995). Indeed, psychopathy has a reckless and antisocial element that was associated with permissive sexual behaviors and discourages long-term motivations (Reise & Wright, 1996).

The finding that men and women differ in how the Dark Triad traits relate to various aspects of sociosexuality is important for future research. One possible explanation may have to do with the fact that men are usually socialized to engage in short-term sexual behavior whereas women are penalized for it (Baumeister & Vohs, 2004). Thus, the common callous-manipulative core seems to be the best predictor of the common core of short-term mating. Another explanation is that women's sociosexuality is less exploitative and may depend less on callousness and manipulation. However, among men, behavioral strategies beyond callousness and manipulation seem to affect sociosexual attitudes and behaviors among the Dark Triad. Specifically, we argue that Machiavellianism is a strategic trait associated with behavioral flexibility (Bereczkei, 2015), which is not associated with short-term behaviors.

The present study had several limitations. First, we did not measure sociosexual desires (Penke & Asendorpf, 2008). Future research should replicate these findings using the long-term

orientation measure of sociosexuality along with the newer measure. Similarly, the data are all cross-sectional with an online sample, which may limit the reliability and generalizability of the results. However, the present sample had a sufficient sample size to assess men and women separately, which was an advantage.

In sum, for women, beyond the common core, the Dark Triad traits did not have different associations with the different aspects of sociosexuality. For men, Machiavellianism had a negative relationship with short-term behaviors, narcissism had a positive relationship with long-term orientation, and psychopathy had a negative relationship with long-term orientation. These findings highlight the importance of looking at differences between men and women as they pertain to the Dark Triad. Future studies should take these differences into account and further examine how men and women process other mating-related variables differently. Further, it may be critical to assess the flexibility of Machiavellianism directly by assessing sociosexual and mating tendencies in relationships that are explicitly agreed to be long- vs. short-term.

References

- Back, M. D., Schmukle, S. C., & Egloff, B. (2010). Why are narcissists so charming at first sight? Decoding the narcissism–popularity link at zero acquaintance. *Journal of Personality and Social Psychology, 98*, 132-145.
- Baumeister, R. F., & Vohs, K. D. (2004). Sexual economics: Sex as female resource for social exchange in heterosexual interactions. *Personality and Social Psychology Review, 8*, 339-363.
- Bereczkei, T. (2015). The manipulative skill: Cognitive devices and their neural correlates underlying Machiavellian's decision making. *Brain and Cognition, 99*, 24-31.

- Bereczkei, T., & Csanaky, A. (2001). Stressful family environment, mortality, and child socialisation: Life-history strategies among adolescents and adults from unfavourable social circumstances. *International Journal of Behavioral Development, 25*, 501-508.
- Bogaert, A. F. (2005). Age at puberty and father absence in a national probability sample. *Journal of Adolescence, 28*, 541-546.
- Buhrmester, M., Kwang, T., & Gosling, S.D. (2011). Amazon's Mechanical Turk: A new source of cheap, yet high-quality, data? *Perspectives on Psychological Science, 6*, 3-5.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences, 12*, 1-49.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: an evolutionary perspective on human mating. *Psychological Review, 100*, 204-232.
- Camilleri, J.A., Quinsey, V.L., & Tapscott, J.L. (2009). Assessing the propensity for sexual coaxing and coercion in relationships: Factor structure, reliability, and validity of the Tactics to Obtain Sex Scale. *Archives of Sexual Behavior, 38*, 959-973.
- Cheung, G.W., & Rensvold, R.B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 9*, 233-255.
- Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism*. New York: Academic Press.
- Cooper, S., & Peterson, C. (1980). Machiavellianism and spontaneous cheating in competition. *Journal of Research in Personality, 14*, 70-75.

- Crawford, M., & Popp, D. (2003). Sexual double standards: A review and methodological critique of two decades of research. *Journal of Sex Research, 40*, 13-26.
- Dolan, M., & Völlm, B. (2009). Antisocial personality disorder and psychopathy in women: A literature review on the reliability and validity of assessment instruments. *International Journal of Law and Psychiatry, 32*, 2-9.
- Eisenberg, D.T.A., Campbell, B., Mackillop, J., Lum, J.K., Wilson, D.S. (2007). Season of birth and dopamine receptor gene associations with impulsivity, sensation seeking and reproductive behaviors. *PLoS ONE, 2*, 1-10.
- Ellis, B. J., Del Giudice, M., Dishion, T. J., Figueredo, A. J., Gray, P., Griskevicius, V., ... & Wilson, D. S. (2012). The evolutionary basis of risky adolescent behavior: implications for science, policy, and practice. *Developmental Psychology, 48*, 598-623.
- Eysenck, H. J. (1976). *Sex and Personality*. London: Open Books.
- Furnham, A., Richards, S., Rangel, L., & Jones, D. N. (2014). Measuring malevolence: Quantitative issues surrounding the Dark Triad of personality. *Personality and Individual Differences, 67*, 114-121.
- Gangestad, S. W., & Simpson, J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences, 23*, 573-587.
- Glenn, A. L., & Sellbom, M. (2015). Theoretical and empirical concerns regarding the dark triad as a construct. *Journal of Personality Disorders, 29*, 360-377.
- Grann, M. (2000). The PCL-R and gender. *European Journal of Psychological Assessment, 16*, 147.

- Greeley, A. (1994). Marital infidelity. *Society, 31*, 9-13.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist—Revised* (2nd ed.). Toronto, Ontario, Canada: Multi-Health System.
- Harms, P. D., Williams, K. M., & Paulhus, D. L. (2001). *Predictors of love-proneness vs. lust-proneness*. Poster presented at the 109th annual convention of the American Psychological Association, San Francisco.
- Harris, G.T., Rice, M.E., Hilton, N.Z., Lalumiere, M.L., & Quinsey, V.L. (2007). Coercive and precocious sexuality as a fundamental aspect of psychopathy. *Journal of Personality Disorders, 21*, 1-27.
- Henderson, C. E., Dakof, G. A., Schwartz, S. J., & Liddle, H. A. (2006). Family functioning, self-concept, and severity of adolescent externalizing problems. *Journal of Child and Family Studies, 15*, 721–731.
- Jackson, J.J., & Kirkpatrick, L. (2007). The structure and measurement of human mating strategies: toward a multidimensional model of sociosexuality. *Evolution and Human Behavior, 28*, 382-391.
- Jonason, P. K., Koenig, B. L., & Tost, J. (2010). Living a fast life. *Human Nature, 21*, 428-442.
- 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., & Kavanagh, P. (2010). The dark side of love: The Dark Triad and love styles. *Personality and Individual Differences, 49*, 606-610.

- Jonason, P.K., Li, N.P., & Buss, D.M. (2010b). 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., 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. D., Schmitt, D. P., Li, N. P., & Crysel, L. (2012). The antihero in popular culture: Life history theory and the dark triad personality traits. *Review of General Psychology, 16*, 192-199.
- Jones, D.N. (2014). Risk in the face of retribution: Psychopathic persistence in financial misbehavior. *Personality and Individual Differences, 67*, 109-113.
- 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., & Olderbak, S. G. (2014). The associations among dark personalities and sexual tactics across different scenarios. *Journal of Interpersonal Violence, 29*, 1050-1070.
- Jones, D.N., & Paulhus, D.L. (2009). Machiavellianism. In M.R. Leary & R.H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 102-120). New York: Guilford.
- Jones, D.N. & Paulhus, D.L. (2011). The Dark Triad and impulsivity. *Personality and Individual Differences, 51*, 670-682.
- Jones, D. N., & Weiser, D. A. (2014). Differential infidelity patterns among the Dark Triad.

Personality and Individual Differences, 57, 20-24.

Klein, A. G., & Muthén, B. O. (2002). *Quasimaximum likelihood estimation of structural equation models with multiple interaction and quadratic effects*. Unpublished manuscript, Graduate School of Education, University of California, Los Angeles.

Lalumière, M. L., & Quinsey, V. L. (1996). Sexual deviance, antisociality, mating effort, and the use of sexually coercive behaviors. *Personality and Individual Differences*, 21, 33-48.

Laumann, E. O. (1994). *The social organization of sexuality: Sexual practices in the United States*. University of Chicago Press.

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal population. *Journal of Personality Assessment*, 66, 488-524.

Little, T. D. (1997). Mean and covariance structures (MACS) analyses of cross-cultural data: Practical and theoretical issues. *Multivariate Behavioral Research*, 32, 53-76.

Mack, T. D., Hackney, A. A., & Pyle, M. (2011). The relationship between psychopathic traits and attachment behavior in a non-clinical population. *Personality and Individual Differences*, 51, 584-588.

Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural equation modeling*, 11, 320-341.

- McHoskey, J.W. (2001). Machiavellianism and sexuality: on the moderating role of biological sex. *Personality and Individual Differences, 31*, 779-789.
- Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain sciences, 18*, 523-541.
- Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological inquiry, 12*, 177-196.
- Mulder, M. B. (2009). Serial monogamy as polygyny or polyandry? *Human Nature, 20*, 130-150.
- Muthén, L. K., & Muthén, B. O. (1998). *Mplus: The comprehensive modeling program for applied researchers, user's guide*. Los Angeles: Muthén & Muthén.
- Nathanson, C., Paulhus, D. L., & Williams, K. M. (2006). Predictors of a behavioral measure of scholastic cheating: Personality and competence but not demographics. *Contemporary Educational Psychology, 31*, 97-122.
- Newman, J. P. (1987). Reaction to punishment in extraverts and psychopaths: Implications for the impulsive behavior of disinhibited individuals. *Journal of Research in Personality, 21*, 464-480.
- Paolacci, G., Chandler, J., & Ipeirotis, P.G. (2010). Running experiments on Amazon's Mechanical Turk. *Judgement and Decision Making, 5*, 411-419.
- Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology, 74*, 1197-1208.
- Paulhus, D.L., Neumann, C.S., & Hare, R.D. (in press). *Manual for the Self-report Psychopathy*

Scale. Toronto: Multi-Health Systems.

- Penke, L., & Asendorpf, J. B. (2008). Beyond global sociosexual orientations: a more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology, 95*, 1113.
- Raskin, R., & Hall, C. S. (1979). A Narcissistic Personality Inventory. *Psychological Reports, 45*, 590.
- Reise, S.P., & Wright, T.M. (1996). Personality traits, cluster B personality disorders, and sociosexuality. *Journal of Research in Personality, 30*, 128-136.
- Rowe, D. C., Vazsonyi, A. T., & Figueredo, A. J. (1997). Mating-effort in adolescence: A conditional or alternative strategy. *Personality and Individual Differences, 23*, 105-115.
- Schmitt, D. P. (2005). Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences, 28*, 247-275.
- Seto, M. C., Lalumière, M. L., & Quinsey, V. L. (1995). Sensation seeking and males' sexual strategy. *Personality and Individual Differences, 19*, 669-675.
- Simpson, J. A., Wilson, C. L. & Winterheld, H. A. (2004) Sociosexuality and romantic relationships. In: *The handbook of sexuality in close relationships*, ed. J. H. Harvey, A. Wenzel & S. Sprecher. Erlbaum.
- Trivers, R. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man, 1871–1971* (pp. 136–179). Chicago: Aldine.

von Hippel, W., & Trivers, R. (2011). The evolution and psychology of self-deception. *Behavioral and Brain Sciences*, *34*, 1-16.

Wiederman, M. W. (1997). Extramarital sex: Prevalence and correlates in a national survey. *Journal of Sex Research*, *34*, 167-174.

Wilson, D. S., Near, D., & Miller, R. R. (1996). Machiavellianism: a synthesis of the evolutionary and psychological literatures. *Psychological bulletin*, *119*, 285-299.

Table 1. *Descriptive statistics for the MTurk Sample.*

| Variable | Men | Women | <i>t</i> | <i>d</i> |
|----------------------|------------------|------------------|----------|----------|
| | <i>Mean (SD)</i> | <i>Mean (SD)</i> | | |
| Short-term attitudes | 3.23 (1.04) | 2.44 (1.07) | 9.20** | .75 |
| Long-term attitudes | 4.07 (0.81) | 4.29 (0.76) | -3.65** | .28 |
| Sexual Behaviors | 3.62 (1.99) | 2.94 (1.64) | 4.52** | .37 |
| Psychopathy (SRP) | 2.50 (0.47) | 2.23 (0.40) | 7.71** | .63 |
| Narcissism (NPI) | 0.38 (0.19) | 0.31 (0.19) | 4.75** | .37 |
| Mach. (Mach-IV) | 2.89 (0.51) | 2.77 (0.47) | 2.99** | .24 |

Table 2. *Inter-correlations among the Dark Triad.*

| | Psychopathy | Narcissism | Machiavellianism |
|----------------------------|-------------|------------|------------------|
| Psychopathy (SRP) | | .46** | .57** |
| Narcissism (NPI) | .48** | | .23** |
| Machiavellianism (MACH-IV) | .60** | .33** | |

Note: * $p < .05$, ** $p < .01$. Men ($n = 239$) are above the diagonal, women ($n = 424$) are below.

Table 3. *Correlations of the MSOI facets.*

| | Sexual behaviors | Short-term attitudes | Long-term attitudes |
|----------------------|------------------|----------------------|---------------------|
| Sexual behaviors | | .58** | -.20** |
| Short-term attitudes | .57** | | -.28** |
| Long-term attitudes | -.27** | -.38** | |

Note: * $p < .05$, ** $p < .01$. Men ($n = 239$) are above the diagonal, women ($n = 424$) are below.

Table 4. *Correlations of the Dark Triad with MSOI facets.*

| | Sexual behaviors | Short-term attitudes | Long-term attitudes |
|----------------------------|------------------|----------------------|---------------------|
| <i>Men (n=239)</i> | | | |
| Psychopathy (SRP) | .26** | .37** | -.35** |
| Narcissism (NPI) | .06 | .08 | -.07 |
| Machiavellianism (MACH-IV) | .12 | .38** | -.27** |
| <i>Women (n=424)</i> | | | |
| Psychopathy (SRP) | .28** | .43** | -.35** |
| Narcissism (NPI) | .17** | .20** | -.12* |
| Machiavellianism (MACH-IV) | .16** | .33** | -.17** |

Note: * $p < .05$, ** $p < .01$.

Figure 1. *The Common Factor Model Linking the Dark Triad and Sociosexuality for Women.*

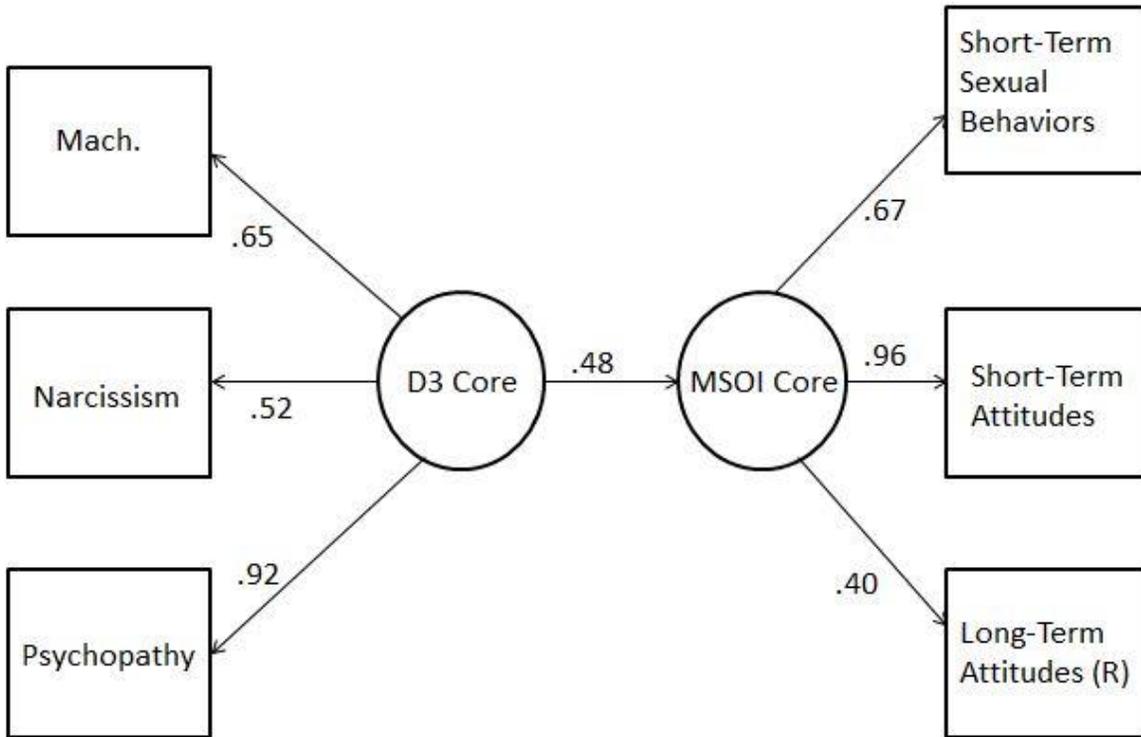


Figure 2. *The Alternative Model Linking the Dark Triad and Sociosexuality for Men.*

