# Lies and crimes: Dark Triad, misconduct, and high-stakes deception

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## ABSTRACT

The goal of the present investigation was to assess whether the Dark Triad traits (Machiavellianism, narcissism, psychopathy) add significantly to the prediction of misconduct and the propensity to engage in high-stakes deception. Self-report scores were collected (n = 464) via the Short-D3 assessing the Dark Triad traits, the Comprehensive Misconduct Inventory measuring misconduct, and the Propensity to Lie Questionnaire investigating lying tendencies. Significant correlations were observed between nearly all variables, but in a multiple regression only psychopathy added significantly to the prediction of the misconduct factors. Further, only Machiavellianism was a significant predictor of high-stakes deception over and above the other predictors in the model.

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## 1. Introduction

The Dark Triad (Paulhus & Williams 2002) is a cluster of three related yet distinct personality traits: sub-clinical psychopathy, narcissism and Machiavellianism. Psychopathy is defined by behaviors such as impulsivity, callous indifference, and low empathy (Hare, 1985). Narcissism is characterized by feelings of grandiosity, vanity and a sense of entitlement (Raskin & Hall 1979). Lastly, Machiavellianism is epitomized by emotional coldness and manipulativeness (Christie & Geis, 1970). Given the socially malevolent tendencies that characterize the Dark Triad traits, there is, understandably, an interest in their behavioral implications. Specifically, it seems salient to determine whether these dark variables are associated with equally dark actions, and particularly whether they are predictive of enacted misconduct and a tendency to engage in high-stakes deception.

### 1.1. The Dark Triad traits and misconduct

Misconduct refers to a wide range of antisocial acts that range in severity and includes behaviors such as plagiarism, reckless driving, sexual promiscuity, drug abuse, theft, and overt violence (e.g., Nathanson,

Paulhus, & Williams, 2006). A rich body of research exists pertaining to the manifestation of misconduct in a broad spectrum of contexts, and numerous measures have been proposed to assess these antisocial behaviors. Recently, Paulhus and Williams (2002) developed the Comprehensive Misconduct Inventory (CMI) to allow for a far-reaching assessment of antisocial actions. The CMI measures seven main dimensions of antisocial behavior: soft drug abuse (e.g., drunk driving, buying alcohol underage), hard drug abuse (e.g., using hallucinogens, selling heroin and cocaine), minor criminality (e.g., stealing from a store, paying for sex), serious criminality (e.g., breaking into a vehicle, damaging a property), driving misbehavior (e.g., receiving a speed ticket, participating in a street car race), bullying/harassing (e.g., assaulting someone, using physical force to get money), and anti-authority misbehavior (e.g., stealing money from parents, sneaking out at night without parents' permission). Consequently, a joint analysis of the CMI and the Dark Triad traits presents a promising route through which the behavioral implications of these personality factors can be understood.

To date, a number of investigations have examined the Dark Triad traits in relation to the misconduct dimensions of the CMI. These endeavors, however, have yielded inconsistent findings and have relied on methods that do not allow for an adequate assessment of the individual contribution of the Dark Triad traits to outcome variables. Specifically, Williams, McAndrew, Learn, Harms, and Paulhus (2001) reported significant positive correlations between all of the CMI subscales assessed and the Dark Triad traits of narcissism and psychopathy. In contrast, the researchers observed significant associations between

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Machiavellianism and only two CMI dimensions—bullying/harassing and minor criminality. In a later study carried out by Nathanson et al. (2006), significant associations were noted between psychopathy and all measured subscales of the CMI—a finding that was in line with the results of the first study. On the other hand, narcissism exhibited significant associations with driving misbehavior and substance abuse only, while Machiavellianism correlated only with the bullying/harassing subscale.

In comparing these investigations, it may be the case that unreliable measurement played a part in yielding the differing results. Specifically, both investigations used the MACH-IV and the Narcissistic Personality Inventory to measure Machiavellianism and narcissism, respectively. Both of these instruments have faced criticism pertaining to their validity (e.g., Brown, Budzek, & Tamborski, 2009; Hunter, Gerbing, & Boster, 1982), and therefore it is possible that psychometric issues with key instruments have impeded the finding of similar results across studies in investigation of the Dark Triad and misconduct.

### 1.2. The Dark Triad traits and high-stakes deception

Lying—the act of making an intentionally false statement with the intention to deceive—can take on two forms (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). Low-stakes lies are those that do not involve risk, and represent mundane dishonesty that is commonplace in social interactions (DePaulo et al., 1996; Gozna, Vrij, & Bull, 2001). In contrast, high-stakes lies involve risk in which the liar can gain or lose something of substantial magnitude (Gozna et al., 2001). For example, lying about cheating on an exam is considered a high-stakes lie.

Given the malevolent tendencies associated with the Dark Triad traits, past research has linked these three variables individually to lying and deception. Machiavellianism has been shown to be a strong predictor of self-serving lies (McLeod & Genereux, 2008), and Machiavellian individuals have been found to be more skilled at telling lies (DePaulo & Rosenthal, 1979; Geis & Moon, 1981). Furthermore, manipulativeness, a defining feature of Machiavellianism, has exhibited associations with both low-stakes and high-stakes lying (e.g., Gozna et al., 2001; Kashy & DePaulo, 1996).

Less research exists on the link between lying and narcissism, although current evidence does suggest that a positive association exists. High scores on narcissism have been linked to lying in an academic context, which is indicative of high-stakes deception (Baughman, Jonason, Lyons, & Vernon, 2014). Further, Kashy and DePaulo (1996) found that individuals with a high concern for impression management were more likely to tell lies in general in comparison to those who were less concerned about socially desirable self-enhancement. Given that narcissistic individuals tend to strive to maintain a grandiose image and therefore practice impression management (Morf, Horvath, & Torchetti, 2011), it seems reasonable to extend this finding to narcissism as well.

Sub-clinical psychopathy has also demonstrated a positive association with lying, both generally (Hare, 1982), as well as in academic and mating contexts (Baughman et al., 2014). Further, it has been shown that those who score high on psychopathy measures tend to engage in behaviors such as cheating, conning, or defrauding for personal gain—actions reminiscent of high-stakes lying (e.g., Widiger & Lynam, 1998). In addition to this risky form of deception, individuals with psychopathic tendencies also habitually employ deception in social situations, which suggests that they also avidly practice low-stakes lying (Seto, Khattar, Lalumière, & Quinsey, 1997).

While these outlined findings provide a good cursory glimpse at the link between deceptive tendencies and the Dark Triad, they are limited by the reliance on correlational analyses, which do not account for the overlap between these three traits. Consequently, additional analyses are warranted that aim to examine the unique contribution of each Dark Triad trait to the prediction of high-stakes deception.

### 1.3. Present study

The goal of the present investigation is to explore the behavioral consequences of the Dark Triad traits. Specifically, relations between the Dark Triad traits and the outcomes variables of misconduct and high-stakes lying will be investigated using correlational analyses. Given the inconsistency in the literature regarding the associations between the Dark Triad traits and misconduct, as well as the lack of direct research on the personality correlates of high-stakes deception, the present investigation is warranted. The study will assess the Dark Triad trait using the Short-D3 (Paulhus & Williams, 2002)—a recent and brief measure of the antisocial cluster—in an effort to overcome the psychometric limitations of existing Dark Triad scales (Veselka, Schermer, & Vernon, 2012). Furthermore, misconduct will be measured using the CMI (Paulhus & Williams, 2002) to allow for a comprehensive assessment of both past and current misbehavior, and the propensity to lie will be assessed using the Propensity to Lie Questionnaire (PTLQ), which focuses specifically on high-stakes deception. Based on previous findings, it is expected that all Dark Triad traits will exhibit correlations with both misconduct and with high-stakes deception. Given the degree of inconsistency in the literature pertaining to the nature of the associations between the variables of interest, however, greater specificity in the outlined hypotheses is not possible.

## 2. Method

### 2.1. Participants

The sample consisted of 464 undergraduate students from North America (131 males; 333 females) who were enrolled in an introductory psychology course. The ages of the participants ranged from 16 to 42 years ($M = 19.5$, $SD = 4.9$). Participants were compensated with a course credit for their involvement in the study.

### 2.2. Measures

#### 2.2.1. Short-D3

The Short-D3 (Paulhus & Williams, 2002) was used to measure the Dark Triad personality traits. This measure consists of 28 items measured on a 5-point Likert scale (1 = *disagree strongly*; 5 = *agree strongly*). The Short-D3 contains three subscales, one for each facet of the Dark Triad.

#### 2.2.2. Comprehensive Misconduct Inventory (CMI)

The 58-item CMI (Paulhus & Williams 2002) was used to assess one's propensity to engage in misconduct behaviors. Specifically, each item presented participants with a given behavior, and asked them to indicate the number of times they had engaged in that behavior. The CMI consists of seven subscales: soft drug abuse, hard drug abuse, minor criminality, serious criminality, driving misbehavior, bullying/harassing, and anti-authority misbehavior. The subscales reflecting soft and hard drug abuse can further be summed to yield a substance abuse factor, while the subscales reflecting the two modes of criminality can be combined to produce a general criminality factor. Prior to summing, all items were standardized (Paulhus & Williams, 2002).

#### 2.2.3. Propensity to Lie Questionnaire (PTLQ)

The extent to which individuals engage in high-stakes deception was measured using the PTLQ. In the first part of this questionnaire, participants were asked to respond to five general items about their typical lying behaviors on a 7-point Likert scale (1 = *never*; 7 = *always*). An example item from this part of the measure is: "How often do you lie?". In the second part of the questionnaire, participants are asked to respond to 22 items pertaining to two short scenarios on a 7-point Likert scale (1 = *never*; 7 = *always*). Scenario 1 describes a hypothetical mating-relevant situation, in which the participant goes out for coffee with an

ex-partner behind a current partner's back and is caught in the act. In Scenario 2, the hypothetical situation is academic in nature and features the participant plagiarizing a friend's assignment and getting caught by the professor. In both of the scenarios, second-person narrative (i.e. "you") is used in order to encourage participants to immerse themselves in the scenario.

### 2.3. Procedure

Data were collected using an online survey containing the three questionnaires listed above. Participants were informed of the nature of the study and provided with consent forms. Once participants gave consent to take part in the study, they were directed to a series of self-report measures in the order indicated above. Upon completion, participants were given debriefing forms and acknowledged for their time and participation in the study. The study took approximately 1 h to complete.

## 3. Results

### 3.1. Sex differences

Sex differences were assessed for all subscales. Given the over-representation of females in the present sample and the resultant un-equal variances between the two sexes, a Welch *t*-test was conducted, and the results are presented in Table 1, with descriptive statistics reported for both sexes. Significant sex differences were observed for all three Dark Triad traits, with males reporting significantly higher scores, on average, than females. For the CMI dimensions, significant sex differences were noted for the subscales of bullying/harassing, driving misbehavior, minor criminality, and overall misconduct. In all cases, males reported significantly more incidents of engaging in misconduct than did females, on average. Statistically significant sex differences were also observed for the PTLQ, where males scored significantly higher than females in overall high-stakes deception, as well as in high-stakes deception in a hypothetical mating context.

**Table 1**
Sex differences in scores on the Short-D3, the Comprehensive Misconduct Inventory (CMI), and the Propensity to Lie Questionnaire (PTLQ).

| Measures | Male, *M* (*SD*) | Female, *M* (*SD*) | Welch *t*-test | |
|---|---|---|---|---|
| | | | *df* | *t* |
| Short-D3 | | | | |
| Machiavellianism | 29.89 (4.79) | 28.77 (4.51) | 225.72 | 5.31[*] |
| Narcissism | 27.86 (4.52) | 26.88 (4.64) | 243.82 | 4.33[*] |
| Psychopathy | 21.51 (5.65) | 19.68 (5.24) | 222.69 | 10.33[**] |
| CMI | | | | |
| Anti-authority | 0.31 (4.70) | −0.12 (4.04) | 209.76 | 0.83 |
| Bullying/harassing | 1.27 (5.58) | −0.50 (3.68) | 176.37 | 11.18[**] |
| Driving misbehavior | 0.75 (5.40) | −0.30 (2.96) | 161.56 | 4.39[*] |
| Soft drug abuse | −0.02 (4.63) | 0.01 (5.21) | 265.83 | 0.01 |
| Hard drug abuse | −0.35 (2.37) | 0.14 (5.02) | 447.63 | 2.01 |
| Minor criminality | 0.99 (6.10) | −0.39 (4.30) | 183.18 | 5.64[*] |
| Serious criminality | 0.82 (6.79) | −0.32 (5.04) | 189.02 | 3.07 |
| Total | 3.77 (25.88) | −1.48 (21.42) | 203.73 | 4.26[*] |
| PTLQ | | | | |
| General | 17.89 (3.44) | 17.94 (3.18) | 222.32 | 0.02 |
| Scenario 1 | 78.67 (11.82) | 75.54 (12.00) | 241.31 | 6.53[*] |
| Scenario 2 | 94.17 (16.21) | 91.81 (15.95) | 234.57 | 2.02 |
| Total | 190.73 (25.21) | 185.28 (24.51) | 232.06 | 4.46[*] |

Note. For the PTLQ, Scenario 1 reflects a mating context and Scenario 2 reflects an academic context. For all analyses, females were coded as 0 and males were coded as 1.

[*] *p* < .05.
[**] *p* < .01 (two-tailed).

### 3.2. Pearson correlations

The Pearson correlations between all variables assessed are reported in Table 2, with Cronbach's reliability coefficients appearing along the diagonal. Associations between the Dark Triad variables and nearly all CMI subscales were significant and positive, suggesting that greater endorsement of each of the Dark Triad traits is related to greater frequency of misconduct. Non-significant correlations revealed that both Machiavellianism and narcissism were unrelated to hard drug use, and that narcissism did not exhibit significant associations with the bullying/harassing variable in our sample. All correlations but one between the Dark Triad traits and the PTLQ variables were positive and significant. Only the association between narcissism and one's general tendency to engage in high-stakes deception was non-significant. This pattern of findings suggests that higher scores on each of the Dark Triad traits are related to a greater propensity toward high-stakes deception.

### 3.3. Multiple regression

Multiple regression analyses were conducted on the Dark Triad, misconduct, and deception variables, and the results are presented in Table 3. Specifically, results are shown only for the criterion variables whose corresponding subscale yielded a sufficiently large Cronbach's alpha reliability (>.70). In all analyses, the demographic variable of sex was also added as a predictor given the sex differences that were identified in our sample (see Table 1).

For the CMI scale, the misconduct variables were individually regressed on the three Dark Triad variables of Machiavellianism, narcissism and psychopathy, as well as on participants' sex. Taken together, the predictors accounted for 12% of the variance in soft drug abuse and serious criminality, 15% of the variance in minor criminality, and 20% of the variance in total misconduct. However, for all four criterion variables of the CMI, only the Dark Triad variable of psychopathy added significantly to the prediction of the misconduct criterion under investigation. Neither Machiavellianism nor narcissism contributed significantly to the prediction over and above psychopathy, and participants' sex was also not a significant predictor of misconduct given the other predictors in the model.

Multiple regression results pertaining to the PTLQ showed that 9% of the tendency to engage in high-stakes deception in an academic context (Scenario 2) is attributable to individual differences in the Dark Triad traits and participants' sex. Further, the predictors accounted for 11% of the variance in the overall tendency to engage in high-stakes deception.

Despite these findings, only the Dark Triad variable of Machiavellianism added significantly to the prediction of both academic deception as well as overall deception, given the other predictors in the models. The remaining predictors of narcissism, psychopathy, and participants' sex did not emerge as significant predictors in the assessed models.

## 4. Discussion

The aim of the investigation was to determine whether the Dark Triad traits, expressed at the sub-clinical level, have behavioral implications, and to address inconsistencies in the existing research pertaining to these trends. Overall, the findings demonstrated that there are indeed significant and positive relations between antisocial tendencies, represented by the Dark Triad traits, and the behavioral variables of misconduct and one's propensity to engage in high-stakes deception. However, multiple regression analyses revealed that it was sub-clinical psychopathy that accounted for unique variance in misconduct, and Machiavellianism that added significantly to the prediction of high-stakes deception.

In the present investigation, correlational analyses using scores from the psychometrically sound Short-D3 (Paulhus & Williams, 2002) and the CMI revealed that all three Dark Triad traits show significant positive

**Table 2**

Pearson correlations and Cronbach's alpha values for the Short-D3, Comprehensive Misconduct Inventory (CMI), and Propensity to Lie Questionnaire (PTLQ).

| | Short-D3 | | | CMI | | | | | | | | PTLQ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **Short-D3** | | | | | | | | | | | | | | | |
| 1. Machiavellianism | **.66** | | | | | | | | | | | | | | |
| 2. Narcissism | .27** | **.70** | | | | | | | | | | | | | |
| 3. Psychopathy | .47** | .33** | **.77** | | | | | | | | | | | | |
| **CMI** | | | | | | | | | | | | | | | |
| 4. Anti-authority | .19** | .11* | .39** | **.63** | | | | | | | | | | | |
| 5. Bullying/harassing | .21** | .09 | .37** | .53** | **.66** | | | | | | | | | | |
| 6. Driving misbehavior | .15** | .13** | .26** | .47** | .32** | **.61** | | | | | | | | | |
| 7. Soft drug abuse | .11* | .14** | .34** | .50** | .26** | .43** | **.83** | | | | | | | | |
| 8. Hard drug abuse | .07 | .06 | .12* | .20** | .19** | .17** | .35** | **.65** | | | | | | | |
| 9. Minor criminality | .19** | .17** | .39** | .53** | .54** | .39** | .53** | .35** | **.76** | | | | | | |
| 10. Serious criminality | .16** | .12* | .35** | .35** | .50** | .33** | .37** | .59** | .58** | **.78** | | | | | |
| 11. Total | .22** | .16** | .45** | .71** | .68** | .61** | .71** | .59** | .81** | .78** | **.91** | | | | |
| **PTLQ** | | | | | | | | | | | | | | | |
| 12. General | .12** | .03 | .15** | .20** | .19** | .06 | .11* | .01 | .17** | .07 | .16** | **.50** | | | |
| 13. Scenario 1 | .21** | .15** | .19** | .22** | .21** | .07 | .13** | .08 | .22** | .09 | .21** | .08 | **.61** | | |
| 14. Scenario 2 | .30** | .17** | .21** | .18** | .16** | .07 | .14** | .03 | .20** | .07 | .17** | .10* | .48** | **.75** | |
| 15. Total | .31** | .19** | .25** | .25** | .23** | .09 | .17** | .06 | .26** | .10* | .23** | .23** | .81** | .89** | **.78** |

Note. Cronbach's alpha values are reported along the diagonal. For the PTLQ, Scenario 1 reflects a mating context and Scenario 2 reflects an academic context. Cronbach's reliability coefficients for all subscales appear along the diagonal of the table are shown in bold.

  * $p < .05$.

  ** $p < .01$ (two-tailed).

associations with nearly all categories of misconduct. These results are in line with a number of existing findings (e.g., Williams et al., 2001), and suggest that there may indeed be a link between antisocial traits and antisocial actions. Despite the fact that significant bivariate correlations were found between the Dark Triad traits and misconduct, multiple regression results revealed that only psychopathy predicted greater misconduct. The strength of psychopathy as a predictor of overt wrongdoing is not

surprising. In past assessments, associations were found reliably between the trait and numerous manifestations of misbehavior, including

criminality, delinquency, violent behavior, and drug abuse (e.g., Chabrol, Van Leeuwen, Rodgers, & Séjourné, 2009; Nathanson et al., 2006; Serin, 1991; Williams et al., 2001). Further, it is widely accepted that individuals with high scores on psychopathy engage in thrill-seeking behaviors and are prone to disinhibition and boredom susceptibility (e.g., Levenson, Kiehl, & Fitzpatrick, 1995). Consequently, it may be the case that psychopathic individuals engage in misconduct as a means of seeking out stimulation to counteract their inherent feelings of monotony. Furthermore, evidence suggests that psychopathic individuals may have reduced moral reasoning relative to those scoring

**Table 3**

Multiple regression: Regressing the Comprehensive Misconduct Inventory (CMI) and the Propensity to Lie Questionnaire (PTLQ) on the Dark Triad traits.

| Criterion | Adjusted $R^2$ | F | B (SE) | β | t |
|---|---|---|---|---|---|
| **CMI** | | | | | |
| Soft drug abuse | .12 | 16.26*** | M = −.08 (.06)<br>N = .04 (.05)<br>P = .34 (.05)<br>S = −.61 (.50) | M = −.07<br>N = .04<br>P = .37<br>S = −.06 | M = −1.41<br>N = .84<br>P = 7.19***<br>S = -1.24 |
| Minor criminality | .15 | 21.36*** | M = .00 (.05)<br>N = .04 (.05)<br>P = .33 (.05)<br>S = .74 (.47) | M = .00<br>N = .04<br>P = .37<br>S = .07 | M = .02<br>N = .80<br>P = 7.25***<br>S = 1.55 |
| Serious criminality | .12 | 16.20*** | M = −.01 (.06)<br>N = .00 (.05)<br>P = .36 (.05)<br>S = .50 (.55) | M = −.01<br>N = .00<br>P = .35<br>S = .04 | M = −.21<br>N = −.05<br>P = 6.79***<br>S = .91 |
| Total | .20 | 30.02*** | M = .00 (.24)<br>N = .04 (.22)<br>P = 1.88 (.21)<br>S = 1.76 (2.14) | M = .00<br>N = .01<br>P = .45<br>S = .04 | M = −.01<br>N = .19<br>P = 9.12***<br>S = .82 |
| **PTLQ** | | | | | |
| Scenario 2 | .09 | 12.99*** | M = .84 (.18)<br>N = .30 (.16)<br>P = .19 (.15)<br>S = .78 (1.60) | M = .24<br>N = .09<br>P = .07<br>S = .02 | M = 4.75***<br>N = 1.83<br>P = 1.26<br>S = .49 |
| Total | .11 | 15.57*** | M = 1.26 (.27)<br>N = .48 (.25)<br>P = .46 (.24)<br>S = 2.72 (2.44) | M = .23<br>N = .09<br>P = .10<br>S = .05 | M = 4.66***<br>N = 1.92<br>P = 1.95<br>S = 1.11 |

Note. B (SE) = unstandardized beta coefficient (standard error). β = standardized beta coefficient. M = Machiavellianism. N = narcissism. P = psychopathy. S = sex of participant. Scenario 2 = high-stakes deception in an academic context. In coding sex, females were coded as 0 and males were coded as 1.

*** $p < .00$ (two-tailed).

low on the trait (e.g., Trevethan & Walker, 1989), which could account for the fact that the stimulation they seek out may not always be in line with social norms pertaining to ethics or integrity.

The finding that Machiavellianism did not add significantly to the prediction of misconduct did contradict some past studies (e.g., Cayanus, Martin, & Weber, 2005; Williams et al., 2001). At the same time, a number of investigations have also not reported links between this trait and overt forms of misconduct, especially if potentially self-destructive (Kerig & Stellwagen, 2010). Machiavellianism, though antisocial in nature, is typically associated with manipulative tactics and covert forms of aggression, such as the spreading of rumors or gossiping in order to improve one's own status at the detriment of others (e.g., Sutton & Keogh, 2000). These behaviors allow Machiavellian individuals to pursue their often-lofty personal goals without tarnishing their veneer of decorum (Bereczkei, Birkas, & Kerekes, 2010). That is, they maintain a reputation of superficial charm, while engaging in concealed or subtle forms of antagonism. This type of image preservation may not be possible if one is prone to overt forms of wrongdoing, as measured by the CMI.

Like Machiavellianism, narcissism also did not account for a significant proportion of unique variance in the assessed forms of misconduct. In this case, however, the findings are contrary to numerous research efforts that have linked the antisocial trait to overtly aggressive or addictive tendencies (Chabrol et al., 2009; Kerig & Stellwagen, 2010). Narcissism, however, is a complex trait. Hostile or rebellious tendencies among narcissistic individuals are typically tied to instances of ego threat (e.g., Stucke, & Sporer, 2002). Narcissistic individuals will react in an aggressive manner during situations in which their sense of self, typically fragile despite its grandiosity, is in peril of being diminished, such as during instances of social rejection (Twenge & Campbell, 2003). Consequently, narcissistic tendencies alone may not reliably predict misconduct. They may simply act a catalyst for misconduct given the appropriate situational factors. Further complicating the issue is the fact that research has identified two domains of narcissism: grandiose and vulnerable. The former is characterized by externalizing aggression (Lobbestael, Baumeister, Fiebig, & Eckel, 2014), whereas the latter is associated with self-destructive tendencies that could include substance abuse (Bobadilla, 2014). Because the Short-D3 does not differentiate between these domains of narcissism, it is possible that its items tap into both types and prevent a clear picture of resultant behaviors from emerging. Subsequent studies may wish to assess the distinct domains of narcissism in relation to overt and covert misconduct in order to obtain a clearer sense of the trait's behavioral implications.

In addition to the discussed findings pertaining to misconduct, the present study reported significant positive correlations between high-stakes deception and all three Dark Triad traits. Despite these significant bivariate associations, however, only Machiavellianism added significantly to the prediction of high-stakes deception in multiple regression models. Given the typically duplicitous and manipulative nature of Machiavellian individuals, it comes as no surprise that those with high scores on this trait were found to show a propensity toward lying, especially in cases where they stood to gain or lose something of substantial magnitude. This observation is in line with existing studies that have reported positive associations between high scores on Machiavellianism and a proneness to high-stakes and low-stakes deception (e.g., Gozna et al., 2001; Kashy & DePaulo, 1996).

With regard to narcissism and psychopathy: both of these traits have been linked to some degree of deception in existing research, even when investigated outside of the Dark Triad context (Baughman et al., 2014). Consequently, the non-significant results obtained in this study are unexpected. It is possible that these findings stem from our use of the PTLQ, which contains a number of items that ask participant regarding emotion-related content—about their own feelings and about the feelings of others in the context of high-stakes deception. These items may be problematic given that individuals high on psychopathy or narcissism have demonstrated theory-of-mind deficits (Goldberg et al.,

2007; Richell et al., 2003), which preclude individuals from understanding the mental states of others. In addition, psychopathy is defined by a lack of emotionality (Hare, 1982), and therefore responding to items about one's feelings in hypothetical scenarios may have been problematic for these individuals.

## 4.1. Limitations

There are a number of limitations to the present study that subsequent investigations may wish to improve upon in a continued effort to identify the behavioral implications of sub-clinical antisocial traits. First, in the present investigation, we did not control for social desirability, which may have led participants to provide misleading answers. The study itself was carried out in a way that maximized participant anonymity, and participants were encouraged to respond as honestly as possible given this anonymity. However, some dishonest responses may have been recorded. Subsequent investigations may wish to assess whether the noted effects remain valid once researchers control for social desirability and other statistical artifacts.

Further, the alpha reliability for the Machiavellianism subscale was low in the present investigation, which may have led to misleading results. While this is certainly possible, it is also the case that the present findings regarding Machiavellianism were in line with existing research pertaining to the trait, both in terms of its relations to misconduct as well as its associations with deception (e.g., Baughman, et al., 2014; Gozna et al., 2001). As a result, the obtained results appear to reflect the true nature of the construct. That being said, follow-up studies may wish to employ alternative measures of Machiavellianism in their research to ensure utmost reliability.

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