Cheater, Cheater, Pumpkin Eater: The Dark Triad, Attitudes towards Doping, and Cheating Behavior among Athletes

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Behavior among Athletes

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Abstract

We examined the relationships between the Dark Triad personality traits (Machiavellianism, narcissism, and psychopathy), attitudes towards doping, and cheating behavior among athletes. One-hundred and sixty-four athletes completed a completed a matrix solving task within a specific time limit. Participants were told they would receive a financial reward for the total number matrices they could solve, but only 13 of the 20 matrices were solvable. This provided the incentive and opportunity for the athletes to cheat. Following this, athletes completed two questionnaires, which assessed the Dark Triad and their attitudes towards doping. All three Dark Triad personality traits correlated positively with attitudes towards doping and cheating behavior. Regression analyses revealed that psychopathy and narcissism positively predicted attitudes towards doping, and narcissism emerged as a positive predictor of cheating behavior. Attitudes towards doping correlated positively with cheating behavior. The Dark Triad appears to be important in relation to both attitudes towards doping and cheating behavior among athletes. In addition, our findings illustrate that favorable attitudes towards doping are linked with actual cheating among athletes. National Anti-Doping Organizations, sports federations, and coaches could assess athletes' Dark Triad scores and attitudes towards doping in order to identify who may be more likely to cheat.

Keywords: Machiavellianism; Narcissism; Performance Enhancing Drugs; Personality; Psychopathy

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Behavior among Athletes

The intentional use of banned performance enhancing drugs (PEDs) or methods,

referred to as doping, represents a form of cheating in sport (Kavussanu, 2019). A recent

study found that up to 57.1% of elite athletes reported doping (Ulrich et al., 2018), which is

much higher than 1-2% of athletes who are typically caught committing an anti-doping rule

violation on a yearly basis (World Anti-Doping Agency; WADA, 2018). It is important to

understand the factors that predict why some athletes take PEDs, in order to reduce the

prevalence of doping. Researchers with an interest in doping have examined factors that may

explain why athletes knowingly cheat by taking PEDs. These included controlling coach

behaviors, the use of nutritional supplements, and the engagement in health harming

behaviors (Nicholls, Cope, et al. 2017; Ntoumanis, Ng, Barkoukis, & Backhouse, 2014). Of

these possible factors, research suggests that athletes' attitudes towards doping may be

particularly important. For example, a meta-analysis by Ntoumanis et al. (2014) found that

favorable attitudes towards doping are one of the strongest predictors of doping behaviors.

Therefore, understanding more about the factors that underpin attitudes towards doping is

important.

The Dark Triad and Attitudes Towards Doping

Personality has been theoretically and empirically linked to attitudes towards doping

(Donovan, Eggar, Kapernick, & Mendoza, 2002; Nicholls, Madigan, Backhouse, & Levy,

2017). In their Sport Drug Control Model (SDCM), Donovan et al. (2002) purported that

personality was one of six factors that shaped attitudes towards doping. Although scholars

previously examined how doping attitudes were associated with personality factors such as

self-esteem (e.g., Gucciardi, Jalleh, & Donovan, 2011), risk taking propensity (Jalleh,

Donovan, & Jobling, 2014), honesty and humility (Nicholls et al., 2019), and perfectionism

(Madigan, Stoeber, & Passfield, 2016); Nicholls, Madigan, Backhouse, et al. (2017) were among the first scholars to examine the relationship between a taxonomy for personality traits and doping attitudes. They examined the relationship between Dark Triad constellation of personality and attitudes towards doping. The Dark Triad contains three related, but distinct personality traits (Machiavellianism, narcissism, and psychopathy). Machiavellianism is characterized by individuals manipulating others and being both corrupt and immoral. Narcissistic people have an over inflated view of themselves, are vain, and have a strong sense of self-entitlement. Finally, individuals who score highly on psychopathy tend to have little empathy and are anti-social (Paulhus & Williams, 2002). Nicholls, Madigan, Backhouse, et al. (2017) reported that Machiavellianism, narcissism, and psychopathy all correlated positively with favorable attitudes towards doping. Further, a linear combination of all three traits explained 29% of the variance in attitudes towards doping, although narcissism was not a significant predictor. These findings require replication and the model requires testing among a sample of other athletes, in order to verify the findings. In addition, because research on the Dark Triad in sport is in its infancy, there is little understanding about which other immoral/unacceptable behaviors it may predict among athletes. It seems logical to presume that a similar relationship may exist between the Dark Triad and cheating behaviors (Kavussanu, 2019).

The Dark Triad and Cheating Behavior

There are some inconsistent findings regarding the association between the Dark Triad and cheating behaviors. Williams, Nathanson, and Paulhus (2010) explored the relationship between the Dark Triad and scholastic cheating. Although these authors reported that Machiavellianism, narcissism, and psychopathy were associated with self-reported cheating, only psychopathy remained a significant predictor after controlling for the other traits. In another study, Roeser et al. (2016) explored the relationship between the Dark Triad and

scores on a number matrix-task. In this task, participants could make more money by cheating and, thus, reporting that they solved some matrix-tasks that were unsolvable. In partial agreement with Williams et al. (2010), psychopathy predicted cheating on the number-matrix task, although Machiavellianism and narcissism did not.

Recent research adds to the complexity of these relationships. For example, Jones and Paulhus (2017) found that Machiavellianism, narcissism, and psychopathy all predicted cheating when participants thought there was little chance of being caught. However, when there was a chance of punishment, only those who scored high on psychopathy cheated. Further, in high-risk situations individuals who scored high on Machiavellianism and were ego depleted (i.e., undergoing a taxing task that disables resources used for strategic thinking) exhibited cheating behaviors. The participants in this study watched a video containing an interview in a foreign language, with English subtitles. Participants in the ego-depletion group were instructed to ignore the subtitles, which disables resources used for strategic thinking (Baumeister, Vohs, & Funder, 2007). The issue of whether the ego depletion effects exists has been questioned, particularly in anagram solving tests (e.g., Hagger et al., 2016; Vadillo, Gold, & Osman, 2018). As Jones and Paulhus did not use an anagram task, it lends support to Vadillo et al.'s (2018) idea that anagram solving tasks are not the optimal way of assessing ego depletion.

Although the findings regarding the relationship between the Dark Triad and cheating are somewhat equivocal, it appears that psychopathy is the strongest predictor of cheating, but both Machiavellianism and narcissism may predict cheating in certain circumstances. None of the aforementioned studies that examined the relationship between the Dark Triad and cheating did so among athletes. It may be important to do so, because winning in sport is associated with self-gain (e.g., praise from coaches, family or teammates, prestige, monetary

gains, and even adulation), and the Dark Triad personality traits have been positively associated with self-gain (Jonason, Lyons, Baughman, & Vernon, 2014).

Attitudes Towards Doping and Cheating Behavior

Cheating may also be important in regard to transgressional behaviors in a sporting context, such as doping (Kavussanu, 2019). Intentional doping represents a form of cheating (WADA, 2018), thus, athletes who are predisposed to cheat may be at a greater risk of doping, because taking PEDs is a cheating behavior (Kavussanu, 2019; WADA, 2018). Surprisingly, scholars have not examined how cheating may be associated with doping prevalence, nor constructs that are associated with doping prevalence, such as attitudes towards doping (Ntoumanis et al., 2014).

The Present Study

In summary, the present study had three aims. Firstly, to re-examine the relationship between the Dark Triad and attitudes towards doping (Nicholls, Madigan, Backhouse, et al., 2017). Secondly, to examine whether the Dark Triad predicts cheating behavior in athletes. Thirdly, to examine the relationship between attitudes towards doping and cheating behavior. Based on previous findings, we hypothesized that all three personality traits of Dark Triad would correlate with favorable attitudes towards doping and cheating behavior. Furthermore, because being in favor of PEDs represents supporting cheating behavior (Kavussanu, 2019), we also hypothesized that favorable attitudes towards doping would be associated with cheating behavior.

Method

Participants

One-hundred and sixty-four athletes, who all took part in competitive sport, participated in this study (female $n = 69$; male $n = 95$). Participants were aged between 18 and 41 years (M age = 21.34, SD = 3.29) and competed in individual ($n = 71$) or team sports

(n = 93). The athletes reported their highest competitive level, which comprised of beginners (n = 18), club (n = 59), county (n = 44), national (n = 30), or international level athletes (n = 13).

Measures

The Dark Triad. We used the 27-item Short Dark Triad (SD3; Jones & Paulhus, 2014) to measure Machiavellianism (e.g., "I like to use manipulation to get my way" and "make sure your plans benefit you, and not others"), narcissism (e.g., "people see me as a natural leader" and "I have been compared to famous people"), and psychopathy ("it's true that I can be mean to others" and "payback needs to be quick and nasty"). All questions were answered on a 5-point Likert-type scale, which was anchored at 1 = *'not at all'* and 5 = *'extremely.'* Previous research provided evidence for the validity of the SD3 with an athletic sample (i.e., Vaughan, Madigan, Carter, & Nicholls, 2019).

Attitudes Towards Doping. We used the 8-item Short-Form Performance Enhancement Attitude Scale (SF-PEAS; Nicholls, Madigan, & Levy, 2017) to measure athletes' attitudes towards doping. The SF-PEAS included items such as "doping is not cheating since everyone does it" and "doping is unavoidable part of the competitive sport." A 6-point Likert-type scale, anchored at 1 = *'strongly disagree'* and 6 = *'strongly agree,'* was used to answer each question. Previous research provided evidence for the validity of the SF-PEAS with adult athletes (e.g., Nicholls, Madigan, & Levy, 2017).

Cheating Behaviors. In order to assess cheating behavior, we employed the number matrix-task that Kouchaki and Smith (2014) and Roeser et al. (2016) used. Participants were presented with 20 matrices and received the following instructions: "The purpose of this task is to see whether number solving correlates to 1) athletic ability, 2) type of sport, and 3) position played. You will be presented with 20 matrixes and have 15 seconds to solve each matrix. You solve the matrix by finding 2 numbers that add up to 10." Participants were

informed that they would receive a financial reward for each number matrix they solved. This, however, was not true. Athletes indicated whether they solved each number grid by circling 'yes' or 'no' on the following page. Seven of the matrices were unsolvable, and thus provided the opportunity for the athletes to cheat.

Procedure

After obtaining ethical approval from a university departmental ethics committee, we advertised the study to athletes. The study advertisement informed potential participants that we were interested in the relationship between number solving abilities and athletic ability, sport type, and position played. Athletes who wanted to participate received an information letter and signed an informed consent form, based on the initial advertisement. The experimental protocol involved all athletes completing a number matrix task (see Kouchaki & Smith, 2014; Roeser et al., 2016), under the pretense that problem-solving would be linked to skill level. This is because we wanted to conceal the fact we were interested in how cheating was linked to the Dark Triad and attitudes towards doping. Following this, we informed the participants we were conducting another study and asked participants whether they would be interested in completing two additional questionnaires, relating to their personality and feelings about PEDs. All participants agreed to take part. Athletes then conducted the SD3 (Jones & Paulhus, 2014) and the SF-PEAS (Nicholls, Madigan, & Levy, 2017). Following the completion of all three components, a trained researcher debriefed each participant about the real aim of the study. That is, athletes were informed that we were not interested in the relationship between number solving abilities and athletic ability, sport type, and position played. We also told participants that only 13 of the matrices could be solved and there was no financial reward for the number of matrices they completed. Participants were informed of a prize draw and given the option of removing their data. No one opted to

remove their data. Finally, each participant was asked to not to mention the deception part of the study to other people.

Data Screening

First, we inspected the data for missing values. There were no missing values. We then computed Omega (total) for our variables (e.g., Dunn et al., 2014). All Omegas were acceptable (see Table 1). Finally, following recommendations by Tabachnick and Fidell (2007), we screened data for multivariate outliers. One participant showed a Mahalanobis distance larger than the critical value of $\chi^2(5) = 20.52$, $p < .001$. Therefore, this data was removed from further analyses. This resulted in a final sample size of 163 athletes.

Results

Bivariate Correlations

Next, we inspected the bivariate correlations between all variables (see Table 1). As in previous research (e.g., Jones & Paulhus, 2014), the Dark Triad dimensions showed strong inter-correlations. Moreover, all the Dark Triad dimensions showed significant positive correlations with attitudes towards doping and cheating behavior. Cheating behavior showed a significant positive correlation with attitudes towards doping. All correlations were medium-to-large sized.

Multiple Regression Analyses

We then conducted two multiple regression analyses (see Table 2). These analyses controlled for (1) age and gender, and (2) the overlap between Dark Triad dimensions and examined the dimensions' unique relationships with attitudes towards doping and cheating behavior respectively. For this, age, gender, and all three Dark Triad dimensions were entered simultaneously into the regression models. Results showed that the model explained 43% of the variance in attitudes towards doping. Narcissism and psychopathy emerged as a significant positive predictor of attitudes towards doping. Results showed that the model

explained 21% of the variance in cheating behavior. Narcissism emerged as a significant positive predictor of cheating behavior.

Discussion

We examined the relationship between the Dark Triad and attitudes towards doping and cheating behavior. We also examined whether attitudes towards doping were associated with cheating behavior. All three Dark Triad traits correlated positively with attitudes towards doping and cheating behavior. When controlling for the overlap between traits, both narcissism and psychopathy emerged as positive predictors of attitudes towards doping, and only narcissism emerged as a positive predictor of cheating behavior. Finally, attitudes towards doping were positively associated with cheating behavior.

The Dark Triad and Attitudes Towards Doping

In agreement with Nicholls, Madigan, Backhouse, et al. (2017), the present findings reiterate that the Dark Triad is associated with athletes' attitudes towards doping. They also reiterate that psychopathy may be the most important of the three traits, as it was the strongest positive predictor of attitudes towards doping. Athletes who score high on psychopathy may have more favorable attitudes because they find it difficult to resist an immediate reward, even when there is a risk of punishment (Crysel, Crosier, & Webster, 2014; Jones, 2014) and are less likely to feel guilty about transgressive behaviors (Trout, 2009). As PEDs may enhance performance, with almost immediate effect in some instances, it is unsurprising that such individuals view PEDs favorably and with less guilt given the possible rewards for success in sport (e.g., prestige, prize money, scholarships).

In contrast to previous work by Nicholls, Madigan, Bachouse, et al. (2017), who found that Machiavellianism was the strongest predictor of favorable attitudes towards doping, the path between these constructs was nonsignificant in the current study. This finding may be related to partialling, which is the partitioning shared variance. This is a common issue that

arises within research exploring the Dark Triad, and has been the subject of continued

discussion in the wider academic literature (Vize, Collison, Miller, & Lynam, 2018). These

equivocal findings therefore indicate that additional research is required to fully explore the

Dark Triad and attitudes towards doping relationship, and to identify factors that may explain

these equivocal findings.

The Dark Triad and Cheating Behavior

We provided the first examination of the relationships between the Dark Triad and

cheating behavior among athletes. Building on existing research among non-athletic samples

that indicated the Dark Triad was an important predictor of cheating (e.g., Williams et al.,

2010), we found that all three traits were important at a bivariate level. In addition, once the

overlap was controlled, narcissism emerged as the most important predictor. This is

consistent with our finding for attitudes towards doping, but somewhat at odds with previous

research among a non-athletic sample. This suggests psychopathy is the most important

predictor among non-athlete samples (Jones & Paulhus, 2017). Given that athletes spend

numerous hours training, this may result in them developing a strong sense of self-

entitlement about winning. As such, narcissistic athletes appear prepared to cheat, in order to

win.

Attitudes Towards Doping and Cheating Behavior

The present study represents one of the first attempts to examine the relationship

between attitudes towards doping and an objective measure of cheating. Further, the

experimental protocol we utilized gave participants an incentive to cheat and was performed

in a time pressured situation, which is similar to competitive sport. Given that doping

represents a serious breach of the rules and is a clear example of cheating (Kavussanu, 2019;

WADA, 2018), it is unsurprising that the two were related. Although researchers have

assessed how attitudes towards doping are related to self-reported doping use (e.g., Lazuras

Barkoukis, & Tsorbatzoudis, 2015), they have not assessed whether athletes with favorable attitudes towards doping would cheat across other domains. Here, we show that they are indeed related. Pursuing this line of research and further understanding why athletes cheat may be important in trying to reduce the frequency of dishonest behaviors in sport.

Limitations and Future Research

The present study has several limitations. First, we did not examine doping prevalence in relation to either the Dark Triad or cheating behavior. Given this constellation of personality traits is associated with substance abuse in other studies (e.g., Azizil et al., 2016), it would be interesting to establish whether the Dark Triad is associated with past or current use of PEDs and intentions to dope in the future. Second, we did not include factors that have been found to moderate cheating behavior. For example, Jones and Paulhus (2017) found that risk level of being punished, ego depletion, and the target of deception all influenced the effects of the Dark Triad on cheating behavior. It would be interesting to see whether these factors influence doping attitudes. Additionally, our study, and other studies (e.g., Jones & Paulhus, 2017; Roeser et al., 2016) that have explored the relationship between the Dark Triad and cheating behaviors, used the SD3 to assess the Dark Triad. The SD3 does not allow for the examination of specific lower-order traits within narcissism (narcissistic grandiosity and narcissistic vulnerability; Cain, Pincus, & Ansell, 2008). Given that narcissism was important in this study, future scholarly activity could explore whether lower-order traits are drivers of cheating behavior and attitudes towards doping. The distinction between lower order traits could be important, because scholars have found that there is some overlap between the traits within the Dark Triad (Miller, Vize, Crowe, & Lynam, in press; Muris, Merckelbach, Otgaar, & Meiger, 2017), so unpicking the direct relationship between each trait might not be that straightforward and could require further consideration. Finally, although we asked participants not to mention the deception part of the study to other people,

it is possible that some of the participants did take part in this study, knowing the true goal of the study.

Conclusions

The Dark Triad appears to be important in relation to both attitudes towards doping and cheating behavior among athletes. Both psychopathy and narcissism may be important in the context of doping. In addition, attitudes towards doping were found to be significantly associated with cheating behaviors. The Dark Triad and attitudes towards doping could therefore be central to future research and assist in identifying athletes who may be susceptible to doping.

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Table 1 *Descriptive Statistics, Cronbach's Alphas, and Bivariate Correlations*

Variable	1	2	3	4	5
1. Machiavellianism					
2. Narcissism	.66***				
3. Psychopathy	.75***	.65***			
4. Cheating behavior	.39***	.41***	.37***		
5. Attitudes towards doping	.51***	.51***	.63***	.45***	
M	23.99	25.29	19.46	1.74	14.38
SD	7.27	7.10	7.62	1.91	9.07
Omega	.83	.82	.85	-	.94

Note. N = 163.

***p < .001.

Table 2 *Summary of Multiple Regression Analysis*

	ΔR^2	β
DV = Attitudes towards doping	.432**	
Age		.13*
Gender		-.05
Machiavellianism		.05
Narcissism		.19*
Psychopathy		.44***
DV = Cheating behavior	.206***	
Age		-.08
Gender		-.07
Machiavellianism		.15
Narcissism		.22*
Psychopathy		.12

Note. N = 163. DV = dependent variable. β = standardized regression weight.

***p < .001.