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The Effects of Moral Disengagement Mechanisms on Doping Likelihood
are Mediated by Guilt and Moderated by Moral Traits

Christopher Ring and Philip Hurst

Psychology of Sport and Exercise

Abstract

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Objectives: We examined the effects of moral disengagement on doping likelihood and guilt, and determined whether the effects of moral disengagement on doping likelihood were mediated by guilt and moderated by moral traits.

Design: We used an experimental design to compare the effects of moral disengagement mechanisms on doping likelihood and guilt in hypothetical situations.

Method: Athletes indicated their doping likelihood and anticipated guilt in situations describing one of six moral disengagement mechanisms (moral justification, advantageous comparison, euphemistic labeling, distortion of consequences, displacement of responsibility, diffusion of responsibility) and in neutral (control) situations. They also completed measures of moral agency, identity, perfectionism, and values, to which we refer collectively as moral traits.

Results: Doping likelihood was higher in all six moral disengagement situations compared to neutral situations. Anticipated guilt was lower in five moral disengagement situations (except euphemistic labeling) compared to neutral situations. Doping likelihood and anticipated guilt differed among the moral disengagement mechanisms. The effect of five moral disengagement mechanisms (except euphemistic labeling) on doping likelihood was mediated by anticipated guilt. The effect of overall moral disengagement on doping likelihood was moderated by moral agency, moral perfectionism and moral values.

Conclusions: Moral disengagement increased the likelihood of doping and decreased affective self-sanction for doping as predicted by the theory of moral thought and action. The finding that the effects of moral disengagement on doping likelihood were moderated by moral agency, moral perfectionism and moral values highlights the role played by moral traits to restrain dishonest conduct in sport.

The Effects of Moral Disengagement Mechanisms on Doping Likelihood are Mediated by Guilt and Moderated by Moral Traits

1 The instrumental use of banned performance enhancing substances in competitive
2 sport (WADA, 2015) has attracted attention from sport psychology researchers wishing to
3 understand the phenomenon of doping (Barkoukis, Lazuras, & Tsorbatzoudis, 2016). Doping
4 is viewed as a moral issue by both athletes (e.g., Erickson, McKenna, & Backhouse, 2015)
5 and academics (e.g., Atry, Hansson, & Kihlbom, 2013; Corlett, 2013; Corlett, Brown, &
6 Kirkland, 2013). However, some academics have argued that doping does not violate the
7 spirit of sport (e.g., Savulescu, Creaney, & Vondy, 2013), and reported that sportspersonship
8 does not predict doping (e.g., Barkoukis, Lazuras, Tsorbatzoudis, & Rodafinos, 2011; cf.
9 Lazuras, Barkoukis, & Tsorbatzoudis, 2010). In order to advance the debate on the ethics of
10 doping, behavioral researchers have looked to social cognitive theory of moral thought and
11 action for guidance.

12 **Social Cognitive Theory of Moral Thought and Action**

13 Bandura's (1991, 2016) social cognitive theory of moral thought and action, which
14 encapsulates the classic social cognitive model of triadic co-determinism connecting the
15 person, their social environment, and their behavior (Bandura, 1986, 1989), describes how
16 moral conduct is influenced by external (e.g. other people) and internal (e.g., thoughts,
17 feelings) factors. The theory argues that our behavior is guided by our moral standards and
18 we are personally responsible for our actions. In other words, we are self-regulating moral
19 agents. When our behavior is not in line with our moral standards we experience negative
20 emotions such as guilt and shame. These affective self-sanctions help to keep our behavior in
21 line with our moral standards and avoid future misdeeds. However, it is possible to behave
22 contrary to our moral standards, if we minimize or suppress the unpleasant feelings
23 associated with transgressive behavior. Bandura (1991) has described the cognitive

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1 maneuvers deployed to achieve this goal and refers to them collectively as moral
2 disengagement.

3 Bandura (1991) identified four sets of moral disengagement mechanisms, only three of
4 which appear to be relevant to doping in sport (e.g., Kavussanu, 2016; Kavussanu,
5 Hatzigeorgiadis, Elbe, & Ring, 2016; Lucidi et al., 2008; Mallia et al., 2016), that operate at
6 different points in the regulatory process. With the first set, moral disengagement
7 restructures the behavior itself via three mechanisms: moral justification, advantageous
8 comparison, and euphemistic labeling. Moral justification transforms the behavior by
9 portraying it as facilitating a valued moral or social purpose (e.g., doping is alright because it
10 helps your team). Advantageous comparison compares the behavior with worse, making it
11 appear relatively benign (e.g., compared to the illegal things people do in everyday life,
12 doping in sport is not very serious). Euphemistic labeling uses language to disguise or sanitize
13 the behavior (e.g., doping is just a way to 'maximize your potential'). With the second set,
14 moral disengagement obscures agency for the behavior via two mechanisms: diffusion and
15 displacement responsibility. Diffusion of responsibility operates by group action and
16 decision-making (e.g., everyone is doing it). Displacement of responsibility describes an
17 authority figure ordering the individual to perform the behavior (e.g., a coach encourages
18 doping). With the third set, moral disengagement disregards or misrepresents the harm
19 caused by the behavior via one mechanism: distortion of consequences. This mechanism
20 downplays or avoids the damage to others caused by the behavior (e.g., doping does not
21 really hurt anyone). In sum, moral disengagement operates to lessen the severity of the
22 behavior itself, the degree of agency for carrying out the behavior, and the severity of the
23 repercussions of the behavior (Kavussanu, 2016).

24 A large body of evidence has established that moral disengagement is associated with
25 increased doping in sport (e.g., Corrion et al., 2017; Hodge, Hargreaves, Gerrard, &

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1 Lonsdale, 2013; Kavussanu & Ring, 2017; Lucidi et al., 2004; Mallia et al., 2016). It is worth
2 noting that all of the previous studies assessed moral disengagement using measurement
3 scales that yielded a global index of moral disengagement. None of these cross-sectional
4 studies compared the impact of the six mechanisms of moral disengagement on doping
5 likelihood (cf., Engelberg, Moston, & Skinner, 2015). Accordingly, we do not know whether
6 the six mechanisms exert equal or different amounts of influence on doping by athletes.

7 Bandura (1991) has stated that "... self-sanctions are activated most strongly when
8 personal agency for detrimental effects is unambiguous" (p. 81). This suggests that some
9 moral disengagement mechanisms may be more influential than others. However, there is
10 limited evidence that speaks to the existence of mechanisms exerting different amounts of
11 influence (e.g., Milgram, 1974; Osofsky, Bandura, & Zimbardo, 2005; Pozzoli, Gini, & Vieno,
12 2012; Thornberg & Jungert, 2014). One exception is Milgram's (1974) seminal work showing
13 that obedience, by complying with an authority figure's instruction to harm another person,
14 was greater with the combination of both displacement and diffusion of responsibility
15 compared to displacement of responsibility alone and displacement of responsibility with
16 conflicting peer advice. To our knowledge, no study has examined the relative strength
17 exerted by the different mechanisms on doping by athletes (cf. Ring, Kavussanu, Simms, &
18 Mazanov, 2018), or indeed any form of cheating or antisocial behavior in sport. To improve
19 our understanding of the moral disengagement-doping relationship, we used an experimental
20 design to compare the effects of six moral disengagement mechanisms on doping likelihood
21 in hypothetical situations.

22 Bandura's (1991, 2016) theory of morality contends that moral disengagement should
23 facilitate immoral actions, such as cheating, by reducing feelings of guilt associated with
24 wrongdoing. This is because self-conscious emotions, such as guilt and regret, are
25 considered internalized self-sanctions, which operate anticipatorily to regulate behavior. In

1 line with the theory, anticipated guilt and regret about the use of banned substances were
2 found to be negatively related to doping likelihood (e.g., Barkoukis, Lazuras, & Harris, 2015;
3 Kavussanu & Ring, 2017; Lazuras, Barkoukis, & Tsorbatzoudis, 2015; Ring & Kavussanu,
4 2018; Strelan & Boeckmann, 2006). In the current study, we compared the effects of six
5 moral disengagement mechanisms on feelings of guilt linked with doping in a hypothetical
6 scenario.

7 **Moral Self**

8 Our moral standards serve to determine our behavior via self-regulatory processes,
9 namely, monitoring of one's behavior, affective sanctioning of one's behavior, and judgment
10 of one's behavior in relation to personal standards and situational pressures (Bandura,
11 1991). Human agency, which describes the process of behaving with intentionality, plays an
12 important role in the regulation of our thoughts and actions (Bandura 1986). To date, there
13 is scant evidence concerning the influence of moral traits in the decision about whether to
14 use doping to enhance performance in sport (Ntoumanis, et al., 2014). Two studies found
15 that moral identity, which describes the importance of moral values for the self-concept
16 (Aquino & Reed, 2002), was negatively associated with doping likelihood (Kavussanu & Ring,
17 2017; Ring et al., 2018). However, another study reported that moral norms were not
18 significantly related to doping intention, although they were negatively associated with
19 doping temptation in situations describing displacement and diffusion of responsibility
20 (Barkoukis, et al., 2015). In the present study, we examined whether the effects of moral
21 disengagement on doping likelihood were moderated by moral traits.

22 **The Current Study**

23 We examined the role of moral disengagement mechanisms on doping likelihood and
24 anticipated guilt. We had four study purposes. First, we compared the effect of each of the
25 six moral disengagement mechanisms on the likelihood of doping by athletes. We

1 hypothesized that doping would be more likely in situations describing moral disengagement
2 compared to neutral situations. Second, we compared the effect of the moral disengagement
3 mechanisms on anticipated guilt associated with doping. We hypothesized that feelings of
4 guilt about doping would be blunted by moral disengagement. Third, we evaluated whether
5 affective self-sanction mediated the effects of moral disengagement on doping. We
6 hypothesized that moral disengagement would facilitate doping indirectly via reduced guilt.
7 Finally, we evaluated whether moral traits moderated the effects of moral disengagement on
8 doping. We hypothesized that the facilitatory effect of moral disengagement on doping
9 likelihood would be thwarted by high moral agency, identity, perfectionism, and values.

10 **Method**

11 **Participants**

12 Participants were 467 (183 males, 284 females) athletes competing in individual ($n =$
13 258, 55%) and team ($n = 209$, 45%) sports in the UK. At the time of data collection,
14 participants ranged in age from 18 to 65 years and had competed in their respective sport
15 for an average of 11.72 ($SD = 8.66$) years. The highest ever standard at which they had
16 competed in their sport at the time of data collection was club (18%), county / regional
17 (35%), national (21%), and international (26%).

18 **Measures**

19 **Doping scenario and moral disengagement in hypothetical situations.**

20 Participants were presented with a scenario adapted from Ring et al (2018): “*Imagine*
21 *that you are an athlete who is due to compete in an important sporting event. You are seriously*
22 *considering using a banned performance enhancing substance, but have not made a final decision.*
23 *To help you make that decision, we have listed a number of situations you may find yourself in. We*
24 *are asking you to tell us what you think you might decide to do in each situation. For each of the*
25 *situations listed below, how likely is it that you would use the banned substance when ...”.*

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1 situations were presented in seven blocks of six situations (see Appendix). Each block
2 comprised six situations describing a single moral disengagement mechanism (diffusion of
3 responsibility, displacement of responsibility, moral justification, distortion of consequences,
4 advantageous comparison, euphemistic labeling) or six neutral situations describing no
5 mechanism that served as a control condition.¹

6 **Doping Likelihood**

7 Participants indicated how likely it is that they would use the banned substance in
8 each situation on a 7-point scale, anchored by 1 (*not at all likely*) and 7 (*very likely*). The mean
9 of the six ratings in each block of situations was computed as a measure of doping likelihood
10 in each of the seven sets of situations ($\alpha = .87$ to $.97$).

11 **Anticipated Guilt**

12 The guilt subscale of the state shame and guilt scale (Marschall, Saftner, & Tangney,
13 1994) was used to measure anticipated guilt about doping. After completing each block of
14 situations, participants were asked to imagine that they used the banned performance
15 enhancing substance mentioned in the scenario and then think about how they would feel.
16 They were presented with the stem “I would ...” followed by five items (e.g., “feel remorse,
17 regret; feel bad about using it”), which they rated on a 7-point scale, anchored by 1 (*not at*
18 *all*) and 7 (*very strongly*). The scale has exhibited very good internal consistency ($\alpha = .82$) in
19 previous research (Marschall et al., 1994). The mean of the five item ratings associated with
20 each block of situations was computed as a measure of anticipated guilt about doping in
21 each of the seven sets of situations ($\alpha = .90$ to $.96$).

22 **Moral Traits**

23 We measured moral traits with four instruments assessing moral agency, moral
24 identity, moral perfectionism and moral values. We assumed that individuals with high moral
25 standards would score high on these measures. These instruments are described below.

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1 **Moral agency.** The moral agency scale was used to measure the ability to
2 determine one's own behavior (Black, 2016). Athletes indicated their level of agreement
3 with 15 statements (e.g., "I am the one responsible for my own behavior, good and bad")
4 using a 7-point scale anchored by 1 (*strongly disagree*) and 7 (*strongly agree*). The validity and
5 reliability of the scale have been documented in past research (Black, 2016). The mean of all
6 15 item ratings was computed and used as a measure of moral agency ($\alpha = .79$).

7 *Moral identity.* The internalization dimension of the moral identity scale (Aquino &
8 Reed, 2002) was used to measure moral identity. Athletes were presented with nine moral
9 traits (e.g., fair, hardworking, honest), and responded to statements concerning these traits
10 (e.g., "It would make me feel good to be a person who has these characteristics") on a 7-
11 point scale anchored by 1 (*strongly disagree*) and 7 (*strongly agree*). This scale has shown very
12 good internal consistency ($\alpha = .83$; Aquino & Reed, 2002). The mean of all five statement
13 ratings was computed and used as a measure of moral identity ($\alpha = .77$).

14 *Moral perfectionism.* The personal moral standards subscale and concern over moral
15 mistakes subscale of the moral perfectionism scale (Yang, Stoeber, & Wang, 2015) measured
16 moral perfectionism. Participants were presented with statements, were told they reflected
17 moral standards and expectations, and asked to indicate their level of agreement with 7
18 items about personal moral standards (e.g., "I set higher moral standards than most people")
19 and 9 items about concern over moral mistakes (e.g., "I hate not adhering to the highest
20 moral standard"), on a 7-point scale anchored by 1 (*strongly disagree*) and 7 (*strongly agree*).
21 Both subscales have demonstrated reliability and validity (Stoeber & Yang, 2016; Yang et al.,
22 2015). The mean of the items in each subscale was computed and used as a measure of
23 personal moral standards ($\alpha = .88$) and concern over moral mistakes ($\alpha = .89$).

24 *Moral values.* The moral values subscale of the adolescents' values scale (Chen, 2008;
25 Yang et al., 2015) was used to measure moral values. Participants were presented with a list

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1 of 15 values (e.g., honesty, respect for others) and asked to indicate how important each
2 value was to them on a 7-point scale, anchored by 1 (*very unimportant*) and 7 (*very important*).
3 The scale has exhibited good reliability ($\alpha = .94$) and validity in previous research (Yang et
4 al., 2015). The 15 item ratings were averaged to yield a measure of moral values ($\alpha = .93$).

5 **Procedure**

6 After obtaining approval from the local research ethics committee, participants were
7 recruited from local sports clubs. The athletes were informed about the study's aims, that
8 participation was voluntary, honesty in responses was vital, data would be anonymous, and
9 information would only be used for research purposes. After consenting, they completed
10 the measures described above via a web-based questionnaire.

11 **Data Analysis**

12 Data were analyzed using SPSS version 24 (IBM). To examine our first study purpose
13 we performed a seven mechanism (diffusion of responsibility, displacement of responsibility,
14 moral justification, distortion of consequences, advantageous comparison, euphemistic
15 labeling, no mechanism) repeated-measures Analysis of Variance (ANOVA) on the doping
16 likelihood ratings from each of the seven blocks. We also computed Pearson correlations to
17 examine the relationships between doping likelihood ratings in the situations describing the
18 moral disengagement mechanisms.

19 To examine our second study purpose, we performed a seven mechanism repeated-
20 measures ANOVA on anticipated guilt ratings. We also conducted Pearson correlation
21 analyses to examine the relationships between anticipated guilt ratings in the situations
22 describing the moral disengagement mechanisms.

23 To examine our third study purpose, we performed six within-participant mediation
24 analyses, using the MEMORE 2.0 (Montoya & Hayes, 2017) SPSS macro (model 1), one for
25 each mechanism of moral disengagement. In these analyses, we examined the direct and

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1 indirect (via anticipated guilt) effects of each moral disengagement mechanism on doping
2 likelihood relative to the neutral no mechanism control. In each of the six analyses, we
3 entered the doping likelihood ratings for one moral disengagement situation plus the neutral
4 situation as the paired outcome variable (e.g., doping likelihood for diffusion of responsibility
5 and doping likelihood for neutral) and the corresponding guilt ratings as the paired mediator
6 variable (e.g., guilt for diffusion of responsibility and guilt for neutral). These analyses allowed
7 us to examine whether the effect of each moral disengagement mechanism on doping
8 likelihood (compared to the neutral control condition) was mediated by anticipated guilt
9 associated with doping in that situation. Bootstrapping was set at 10,000 samples. Bias-
10 corrected 95% confidence intervals were estimated for all effects. An effect was considered
11 significant when the confidence interval did not contain zero.

12 To examine our fourth study purpose, we performed a series of moderated mediation
13 analyses for a two-condition within-participant design, using the MEMORE 2.0 (Montoya,
14 2018; Montoya & Hayes, 2017) SPSS macro (model 2), which runs moderation of within-
15 participants analysis using regression. In these analyses, we examined if the direct effects of
16 moral disengagement on doping likelihood was conditional on moral agency, identity,
17 perfectionism, and values. We entered the doping likelihood rating for the average of the six
18 moral disengagement situations together with the doping likelihood ratings for the neutral
19 situation as the paired outcome variable and each one of the moral trait measures (i.e.,
20 moral agency, moral identity, personal moral standards, concern about moral mistakes,
21 moral values) as the candidate moderator variable, thus examining one moderator at a time.
22 We examined the overall doping likelihood rather than the likelihood referring to individual
23 mechanisms to keep the analysis simple and because we did not expect differential
24 moderation effects for each mechanism. Bootstrapping was set at 10,000 samples. Bias-

1 corrected 95% confidence intervals were estimated for all effects. An effect was considered
2 significant when the confidence interval did not contain zero.

3 **Results**

4 **Moral Disengagement and Doping Likelihood**

5 Our first study purpose was to determine the effects of moral disengagement on the
6 likely use of banned substances. The means and confidence intervals for doping likelihood
7 scores associated with each moral disengagement mechanism are presented in Table I. The
8 descriptive statistics indicated that doping likelihood ratings were relatively low, and that
9 they varied considerably among the mechanisms, ranging from close to one for neutral
10 situations to midway between two and three for situations describing diffusion of
11 responsibility. We performed a within-participant repeated measures ANOVA (7
12 Mechanisms) on the doping likelihood ratings to compare the influence of the six moral
13 disengagement mechanisms and no mechanism (neutral situation) on doping likelihood; the
14 multivariate solution yielded a significant and large-sized main effect, $F(6, 461) = 72.50, p <$
15 $.001, \eta_p^2 = .485$. Doping likelihood was greater in all of the moral disengagement situations
16 compared to the neutral situations. The scores of doping likelihood pertaining to each
17 mechanism can be seen in Table I. The scores varied monotonically among the moral
18 disengagement mechanisms and are ranked from highest to lowest, as follows: diffusion of
19 responsibility, displacement of responsibility, moral justification, distortion of consequences,
20 advantageous comparison, and euphemistic labeling. It is worth noting that doping likelihood
21 differed between every pair of mechanisms, with the exception of distortion of
22 consequences and advantageous comparison. Correlations (see Table I) showed that doping
23 likelihood scores pertaining to the moral disengagement mechanisms were positively and
24 highly correlated with each other (Table I).

25 **Moral Disengagement and Guilt**

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1 Our second study purpose was to determine the effects of moral disengagement on
2 anticipated guilt following use of a banned substance. The means and confidence intervals for
3 guilt associated with doping for each moral disengagement mechanism are presented in
4 Table 2. The descriptive statistics indicated that guilt ratings were relatively high and varied
5 among the mechanism, ranging from below six to above six on the 7-point scale. To
6 compare the influence of moral disengagement mechanisms on affective self-sanctions, we
7 performed a within-participant ANOVA (7 Mechanisms) on the guilt ratings; the multivariate
8 solution revealed a significant, medium-sized, main effect, $F(6, 461) = 18.47, p < .001, \eta_p^2 =$
9 $.194$. Feelings of anticipated guilt about potential doping were lower than neutral situations
10 for the situations associated with diffusion of responsibility, displacement of responsibility,
11 moral justification, distortion of consequences and advantageous comparison, but similar to
12 neutral situations for euphemistic labeling situations (Table 2). Guilt was lowest for diffusion
13 of responsibility, being lower than with the other five mechanisms. Anticipated guilt was
14 similar for displacement of responsibility, moral justification and distortion of consequences,
15 which were less than for advantageous comparison, which, in turn, was less than for
16 euphemistic labeling (Table 2). Correlation analyses showed that guilt ratings were
17 universally positively and highly correlated among the moral disengagement mechanisms
18 (Table 2).

19 **Guilt as Mediator of the Effects of Moral Disengagement on Doping**

20 Our third study purpose was to evaluate whether the effects of moral disengagement
21 on doping likelihood were mediated by anticipated guilt. The direct and indirect (mediation)
22 effects for each of the six within-participant analyses are summarized in Table 3 and Figure
23 1. All of the direct effects were significant: moral disengagement decreased guilt, guilt
24 decreased doping likelihood, and moral disengagement increased doping likelihood. Most of
25 the indirect effects were significant: the effects of moral disengagement on doping likelihood

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1 were mediated by guilt in five out of six mechanisms (diffusion of responsibility,
2 displacement of responsibility, moral justification, distortion of consequences, advantageous
3 comparison), with the sole null exception being the euphemistic labeling mechanism.

4 **Moral Traits as a Moderator of the Effects of Moral Disengagement on Doping**

5 The summary statistics show that athletes reported relatively high levels of moral
6 agency, moral identity, personal moral standards, and moral values, together with moderate
7 levels of concern over moral mistakes (Table 4). Pearson correlations indicated that the
8 aggregated doping likelihood score (computed as the arithmetic mean of doping likelihood
9 ratings for all six mechanisms) was negatively and significantly correlated with all moral
10 traits: moral agency ($r = -.26, p < .001$), moral identity ($r = -.13, p = .006$), personal moral
11 standards ($r = -.18, p < .001$), concern about moral mistakes ($r = -.13, p = .006$), and moral
12 values ($r = -.14, p = .003$).

13 Our fourth study purpose was to evaluate whether the effects of moral disengagement
14 on doping likelihood were moderated by moral traits. The conditional (interaction) effects
15 for each of the five moderator variables are summarized in Table 4. Four of the conditional
16 direct effects were significant: the effects of moral disengagement on doping likelihood were
17 moderated by moral agency, personal moral standards, concern about moral mistakes, and
18 moral values. Moral identity did not act as a moderator. That the coefficients for the
19 conditional effects were all negative indicates that the direct effect of moral disengagement
20 on doping likelihood was attenuated by stronger moral traits. The conditional effect (Table
21 4) was large for moral agency, medium for personal moral standards, and small for concern
22 over moral mistakes and moral values. These analyses show that moral agency was the
23 strongest moral trait at thwarting intended use of banned substances; personal moral
24 standards was the next strongest, followed lastly by moral values and concern over moral
25 mistakes.

1 **Discussion**

2 Grounded on Bandura's (1991, 2016) social cognitive theory of morality, we evaluated
3 a model of doping in sport that considered the impact of cognitive maneuvers designed to
4 disengage moral standards on the probability of using banned performance enhancing
5 substances and affective self-sanction. Specifically, we evaluated the direct, indirect (via
6 anticipated guilt), and conditional (depending on moral traits) effects of six moral
7 disengagement mechanisms on athletes' doping likelihood in hypothetical scenarios.

8 **Moral Disengagement and Doping**

9 Our first study purpose was to compare the individual effect of each of the six moral
10 disengagement mechanisms on the likelihood of doping by athletes. Bandura's (1986, 1991,
11 2016) theory of moral thought and action argues that cognitive maneuvers can disengage
12 moral self-sanctions and thereby make any planned immoral conduct more acceptable to the
13 perpetrator. In support of our hypothesis, the current findings revealed that doping was
14 more likely in situations describing deployment of any one of six mechanisms of moral
15 disengagement by athletes compared to neutral situations where no cognitive maneuvers
16 operated. Moreover, the ability of the individual mechanisms to influence doping likelihood
17 varied considerably, revealing a ranking of mechanisms. Specifically, the mechanisms that
18 obscured causal agency for the behavior were the strongest (diffusion and displacement of
19 responsibility), the mechanisms that ignored, minimized and misrepresented harmful
20 consequences of the behavior for others were of intermediate strength (distortion of
21 consequences), and the mechanisms that re-construed the behavior were the weakest
22 (euphemistic labeling, advantageous comparison, moral justification).

23 These novel findings for the moral disengagement-doping relationship share some
24 similarities with the handful of studies that have noted differences among the mechanisms
25 concerning disengagement from moral standards in relation to other forms of transgressive

1 conduct, including aggression, execution of prisoners, and bullying (e.g., Milgram, 1974;
2 Osofsky et al., 2005; Pozzoli et al., 2012; Thornberg & Jungert, 2014). Accordingly, the
3 current data add further evidence to support the proposition that some mechanisms are
4 more effective than others at excusing moral transgressions. Future research should aim to
5 corroborate the current findings and investigate how the mechanisms act to regulate doping
6 behavior (e.g., additive, synergistic, antagonistic) when two or more mechanisms are
7 combined.

8 **Moral Disengagement and Guilt**

9 Our second study purpose was to compare the effect of moral disengagement
10 mechanisms on anticipated guilt associated with doping. The theory of moral thought and
11 action (Bandura, 1991) proposes that internalized affective self-sanctions are activated when
12 behavior falls short of that expected based on moral standards. The use of moral
13 disengagement mechanisms is believed to attenuate the ensuing unpleasant affective states
14 and thereby make the behavior permissible to the individual despite being incongruent with
15 their moral self. Extending past research and supporting our hypothesis, the current study
16 provided evidence that each of the six moral disengagement mechanisms attenuated feelings
17 of guilt associated with doping compared to a no mechanism control. These findings are
18 compatible with previous research showing that moral self-conscious emotions, such as
19 guilt, shame and regret, have been negatively associated with doping intentions or likelihood
20 (e.g., Barkoukis et al., 2015; Kavussanu & Ring, 2017; Lazuras, Barkoukis, & Tsorbatzoudis,
21 2015; Ring & Kavussanu, 2018; Strelan & Boeckmann, 2006). We also provided evidence
22 that anticipated guilt varied among the mechanisms of moral disengagement.

23 Athletes expected to feel least guilt with diffusion of responsibility, suggesting that the
24 mantra “everyone does it” is the best cognitive maneuver at reducing affective self-sanction.
25 The collection of maneuvers that were less effective at reducing guilt included displacement

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1 of responsibility, distortion of consequences, and moral justification, which were followed in
2 terms of effectiveness by advantageous comparison. Finally, the use of euphemistic labeling
3 failed to reduce anticipated guilt, and so was ineffective as a means of suppressing affective
4 self-sanction. It is worth noting that the pattern of anticipated guilt as a function of moral
5 disengagement was similar but different to that displayed for doping likelihood. This
6 discrepancy in the patterning of the responses between our two key outcome variables
7 indicates that moral disengagement should facilitate doping via its effects on additional
8 processes, such as social sanctions (Bandura, 1991).

9 **Guilt as Mediator**

10 Our third study purpose was to evaluate whether affective self-sanction mediated the
11 effects of moral disengagement on doping likelihood. In line with our hypothesis that moral
12 disengagement would facilitate doping indirectly via reduced guilt, we found evidence for this
13 indirect effect for five out of the six mechanisms. The sizes of the indirect effect were
14 relatively large for diffusion of responsibility, medium for displacement of responsibility and
15 moral justification, and small for distortion of consequences and advantageous comparison.
16 The sole exception and null effect was for euphemistic labeling, which, incidentally, also
17 exerted the smallest influence on both doping likelihood and guilt. Previous studies using
18 cross-sectional designs have provided evidence that the effects of global moral
19 disengagement on doping likelihood were mediated by guilt (e.g., Kavussanu & Ring, 2017;
20 Ring & Kavussanu, 2018). Taken together with these previous findings, the current data
21 paint a clear picture of the emotional aspect of the self-regulatory process in the context of
22 doping and confirm that affective self-sanctions can be thwarted by most cognitive
23 maneuvers and thereby make transgressive conduct more likely to happen, as predicted by
24 Bandura's (1991, 2016) theory of moral thought and action.

25 **Moral Traits as Moderators**

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1 Our final study purpose was to evaluate whether moral traits moderated the effects of
2 moral disengagement on doping. We hypothesized that the facilitatory effect of moral
3 disengagement on doping likelihood would be thwarted by relatively high moral agency,
4 identity, perfectionism, and values. The data partially supported our hypothesis by showing
5 that the positive effect of moral disengagement on doping likelihood was restrained by
6 stronger moral agency (large effect), higher personal moral standards (medium effect),
7 greater concern over moral mistakes (small effect), and higher moral values (small effect). A
8 null finding was noted for moral identity, which did not moderate the effects of moral
9 disengagement on doping.

10 Moral agency, which describes the capacity to act according to personal standards (i.e.,
11 taking personal responsibility for one's actions), is believed to play a moderating role in
12 determining the nature of the relation between moral standards and moral action (Bandura,
13 1989, 2001; Black, 2016). Moral agency, which is at the core of Bandura's (1986, 1991, 2018)
14 theorizing about social cognition, emerged as the strongest correlate of doping likelihood
15 and the strongest moderator of the effects of moral disengagement on doping likelihood.
16 Our data therefore confirm speculations that self-regulatory processes depend on the
17 individual's moral agency. Indeed, we found that the more athletes assume responsibility for
18 their actions, resist external attribution, and stand up to group pressure (Black, 2016) –
19 namely act as self-determining moral agents – the less vulnerable they are to the effects of
20 moral disengagement on doping likelihood (Bandura, 2018).

21 We also found that moral perfectionism, assessed by the measures of personal moral
22 standards and concern over moral mistakes, was negatively correlated with doping
23 likelihood. Our findings show that the effects of moral disengagement on doping were
24 blunted to a greater extent by personal moral standards than by concern over moral
25 mistakes. This differential effect broadly agrees with the pattern of correlations between

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1 these two dimensions of moral perfectionism and measures of both moral thoughts and
2 actions (Stoeber & Yang, 2016). However, our findings are mostly at odds with studies that
3 investigated the link between general perfectionism and doping attitudes (Bae, Yoon, Kang,
4 & Kim, 2017; Madigan, Stoeber, & Passfield, 2016; Zucchetti., Candela, & Villosio, 2015). This
5 discrepancy can be explained by our assessment of moral perfectionism and their
6 assessment of general perfectionism. Although Stoeber and Yang (2016) reported that the
7 general perfectionism and moral perfectionism subscales were positively correlated for
8 personal standards and concern over mistakes, the two forms of perfectionism were
9 differentially related to moral variables, including moral judgment, values, and identity. It is
10 evident that perfectionism needs to be assessed using context-sensitive instruments to
11 capture its role in doping.

12 We observed that moral values, which were negatively associated with doping
13 likelihood, moderated the effects of moral disengagement on doping likelihood. It should be
14 noted that the effect was small in size. Closer examination of the items used to assess moral
15 values (Stoeber & Yang, 2016) may help explain these weak findings between moral values
16 and doping. It remains for future research to further examine their relationship using other
17 values, including sport-specific values such as those identified by Lee and colleagues (e.g.,
18 Lee, Whitehead, & Ntoumanis, 2007).

19 Moral identity is the cognitive schema that people hold about their moral character
20 (Aquino, Reed, Thau, & Freeman, 2009). People with a strong moral identity consider being
21 moral an important part of their self concept and are motivated to behave morally (Aquino
22 & Reed, 2002). Our finding that moral identity was negatively correlated, albeit weakly, with
23 doping likelihood is compatible with a large body of evidence showing that moral identity is
24 positively associated with prosocial behavior, avoidance of antisocial behavior, and ethical
25 behavior (Hertz & Krettenauer, 2016). In the context of doping, two studies have noted that

1 moral identity was negatively associated with doping likelihood (Kavussanu & Ring, 2017;
2 Ring et al., 2018). This observation was replicated by the current study. A couple of studies
3 have reported that moral identity interacts with moral disengagement to jointly influence
4 moral thought, feeling, and action (Aquino, et al., 2007; Hardy, Bean & Olsen, 2015),
5 however, we did not support their findings with respect to doping likelihood. Accordingly,
6 moral identity, which describes the importance of moral standards to the self, did not
7 thwart the effects of moral disengagement on doping likelihood.

8 **Limitations of the Study and Directions for Future Research**

9 The present study yielded some important novel findings. However, some issues
10 should be considered when interpreting our findings. First, we controlled for neither past
11 behavior (i.e., past doping use or use of banned substances) nor use of nutritional
12 supplements. Past history of doping has been linked with doping intentions (e.g., Lazuras et
13 al., 2010, 2015), whereas use of nutritional supplements is a putative risk factor for doping
14 (Hurst et al., 2017; Nicholls et al., 2017; Ntoumanis et al., 2014). Accordingly, the influence
15 of past drug and supplement use should be assessed in future studies.

16 Second, there is potential overlap in the description of some of the situations between
17 the social cognitive theory of morality (Bandura, 1986, 1991, 2016) and the theory of
18 planned behavior (Ajzen, 1991, 2011). Specifically, it appears that diffusion of responsibility
19 situations resemble descriptive social norms (i.e., what most other people around me are
20 doing), displacement of responsibility situations resemble subjective or injunctive social
21 norms (i.e., perceived social approval or endorsement of the target behavior by referent
22 others), and distortion of consequences situations resemble risk perceptions and optimistic
23 bias (e.g., using it won't do any harm, risks are exaggerated). Past research suggests that
24 norms are associated with doping intentions and temptations (e.g., Lazuras et al., 2010,
25 2015). Accordingly, researchers might wish to determine the extent to which moral

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1 disengagement mechanisms and social norms provide unique and shared explanations of
2 doping likelihood (cf., Lucidi et al., 2008, 2013).

3 Third, some of our neutral situations described conditions where the motivational
4 impetus to dope was lacking (e.g., no financial benefit, no pressure to perform). Our
5 intention was to describe situations where moral disengagement was unlikely. The ratings of
6 doping likelihood were close to one, suggesting that moral standards were not disengaged.
7 Nonetheless, it would be interesting to examine doping likelihood in other neutral situations
8 so that our moral disengagement manipulations can be replicated and extended.

9 **Conclusions**

10 Our findings supported our hypotheses and provided confirmation of, and extension
11 to, a social cognitive model of doping in sport based on Bandura's (1986, 1991, 2016, 2018)
12 theoretical framework. First, we confirmed that doping by athletes is more likely when the
13 situation describes use of moral disengagement, particularly mechanisms that obscure
14 agency for, and consequences of, the decision to use banned performance enhancing
15 substances. Second, we showed that moral disengagement mechanisms, particularly diffusion
16 of responsibility, blunted the potency of affective self-sanction. Third, we found that the
17 effects of moral disengagement on doping were mediated by anticipated guilt about use of
18 banned substances to enhance performance. Finally, we found that the effects of moral
19 disengagement on doping were moderated by moral traits, specifically, moral agency, moral
20 perfectionism and moral values, that reflect the moral self. Our study suggests a number of
21 directions that the anti-doping community may want to consider and highlights a number of
22 promising targets that seem most suitable for intervention.

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- 18
- 19

1 **Note**

2 'A pool of situations was generated or adapted from items taken from doping moral
3 disengagement scales (e.g., Kavussanu et al., 2016; Lucidi et al., 2008; Boardley et al., 2018)
4 by academics with extensive experience teaching and researching in sport psychology. Two
5 academics and six college athletes, who played competitive sport at high levels (club, county,
6 international), and who had many years of experience playing sport, were given definitions
7 of each mechanism of moral disengagement and the pool of situations. They were asked to
8 rate how representative each situation was of the definition of each mechanism on a scale
9 ranging from -3 (not at all representative) to +3 (very representative). The six situations
10 rated most representative of each definition were selected and used in the current study –
11 every one of these situations was rated at least 2.

12

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Table 1

Descriptive statistics, alpha coefficients, and zero-order correlations for doping likelihood in the moral disengagement and neutral situations

Mechanism	<i>M</i>	<i>95% CI</i>	<i>A</i>	1.	2.	3.	4.	5.	6.
1. Diffusion of Responsibility	2.45	2.30, 2.59	.97						
2. Displacement of Responsibility	2.22	2.10, 2.34	.95	.79 *					
3. Moral Justification	2.00	1.88, 2.11	.94	.76 *	.72 *				
4. Distortion of Consequences	1.80 ^a	1.70, 1.91	.92	.70 *	.67 *	.73 *			
5. Advantageous Comparison	1.75 ^a	1.65, 1.86	.94	.69 *	.66 *	.72 *	.79 *		
6. Euphemistic Labeling	1.56	1.47, 1.66	.93	.69 *	.67 *	.75 *	.75 *	.82 *	
7. Neutral (No Mechanism)	1.13	1.09, 1.16	.87	.27 *	.30 *	.28 *	.30 *	.31 *	.39 *

Note. Possible range of scores: 1-7. * $p < .001$. Means sharing the same superscript (^a) are not significantly ($p < .05$) different from each other.

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Table 2

Descriptive statistics, alpha coefficients, and zero-order correlations for anticipated guilt in the moral disengagement and neutral situations

Mechanism	<i>M</i>	<i>95% CI</i>	<i>A</i>	<i>1.</i>	<i>2.</i>	<i>3.</i>	<i>4.</i>	<i>5.</i>	<i>6.</i>
1. Diffusion of Responsibility	5.83	5.69, 5.98	.96						
2. Displacement of Responsibility	6.11 ^a	6.00, 6.24	.94	.79 *					
3. Moral Justification	6.09 ^a	6.00, 6.21	.95	.78 *	.76 *				
4. Distortion of Consequences	6.12 ^a	5.99, 6.25	.96	.76 *	.75 *	.83 *			
5. Advantageous Comparison	6.21	6.08, 6.33	.96	.76 *	.76 *	.87 *	.86 *		
6. Euphemistic Labeling	6.30 ^b	6.19, 6.42	.95	.73 *	.80 *	.84 *	.78 *	.88 *	
7. Neutral (No Mechanism)	6.36 ^b	6.26, 6.46	.90	.68 *	.85 *	.72 *	.73 *	.74 *	.81 *

Note. Possible range of scores: 1-7. * $p < .001$. Means sharing the same superscript are not significantly ($p < .05$) different from each other.

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Table 3

Direct and indirect effects for moral disengagement (relative to neutral), guilt and doping likelihood

Mechanism	Direct						Indirect			
	Effect		Effect		Effect		Intercept (Residual Effect)		Effect	
	Δ MD on Δ Guilt		Δ Guilt on Δ DL		Δ MD on Δ DL		Δ MD on Δ DL		MD on DL via Guilt	
	<i>b</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>
Diffusion of Responsibility	-0.53	-0.63, -0.42	-0.33	-0.44, -0.22	1.32	1.18, 1.46	1.15	1.02, 1.27	.17	.10, .26
Displacement of Responsibility	-0.24	-0.31, -0.18	-0.29	-0.45, -0.13	1.09	0.98, 1.21	1.02	0.91, 1.13	.07	.02, .13
Moral Justification	-0.27	-0.36, -0.18	-0.27	-0.37, -0.17	0.87	0.76, 0.98	0.80	0.70, 0.90	.07	.03, .13
Distortion of Consequences	-0.24	-0.32, -0.15	-0.18	-0.28, -0.08	0.68	0.58, 0.78	0.63	0.54, 0.73	.04	.01, .08
Advantageous Comparison	-0.15	-0.23, -0.07	-0.23	-0.33, -0.13	0.63	0.52, 0.73	0.59	0.50, 0.68	.03	.01, .08
Euphemistic Labeling	-0.05	-0.12, 0.01	-0.24	-0.34, -0.14	0.44	0.35, 0.52	0.42	0.35, 0.50	.01	.00, .04

Note. MD = moral disengagement, DL = doping likelihood.

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Table 4

Conditional effects of moral disengagement (relative to neutral) on doping likelihood moderated by moral traits

Moderator	Descriptives			Moderation Effect				ΔMD on ΔDL at Values of Moderator		
	<i>M</i>	95% <i>CI</i>	<i>b</i>	Moderator x ΔMD on ΔDL		<i>M</i> - 1 <i>SD</i>		<i>M</i>	<i>M</i> + 1 <i>SD</i>	
	<i>M</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>	<i>b</i>	95% <i>CI</i>
Moral Agency	5.69	5.63, 5.75	-0.33	-0.47, -0.18	1.04	0.91, 1.17	0.84	0.74, 0.93	0.63	0.50, 0.76
Moral Identity	6.32	6.25, 6.40	-0.10	-0.21, 0.01	0.92	0.79, 1.06	0.84	0.74, 0.93	0.75	0.62, 0.88
Personal Moral Standards	5.22	5.13, 5.31	-0.22	-0.32, -0.13	1.05	0.92, 1.18	0.84	0.74, 0.93	0.62	0.49, 0.75
Concern Over Moral Mistakes	3.96	3.85, 4.07	-0.11	-0.19, -0.03	0.97	0.84, 1.10	0.84	0.74, 0.93	0.70	0.57, 0.84
Moral Values	5.95	5.86, 6.03	-0.12	-0.22, -0.02	0.95	0.82, 1.08	0.84	0.74, 0.93	0.72	0.59, 0.85

Note: Possible range of scores: 1-7. MD = moral disengagement, DL = doping likelihood.

APPENDIX

Mechanism	Situation
diffusion of responsibility	<i>all of my team/club mates use such substances everyone uses such substances most athletes in my sport use such substances my competitors use the substance the current champions in my sport use the substance many athletes in my sport are using the substance</i>
displacement of responsibility	<i>my coach encourages me a team/club mate encourages me my coach pressures me to use it a senior member of my team/club encourages me my coach assures me it is the right thing to do a member of my medical team tells me it is a good idea</i>
distortion of consequences	<i>using it won't do any harm risks associated with using it are exaggerated its negative side effects are overblown by the media me using it won't affect other athletes/players the athletes I beat will have other chances to win using it won't hurt anyone else</i>
moral justification	<i>it will help my team/club it will allow me to help and provide for my family it will allow my team/club to progress to the next level it will help me advise other athletes/players on how to do it right and safe it will make my team/club successful my exceptional performance will generate much needed interest and money for the sport I love</i>
advantageous comparison	<i>using it is safe compared to other drugs it is no different to using the best equipment I am not hindering my opponents, just enhancing my own it is not as harmful as other substances, such as tobacco and alcohol other athletes have been using it for a long time whereas I will only use it once it is not as serious as injuring (i.e., tripping, elbowing, hitting) your opponent</i>
euphemistic labeling	<i>it is a way to 'maximize potential' it will create a 'level playing field' describing it as using 'roids', 'gear' and 'juice' makes it sound acceptable using it is just 'succeeding through alternative methods' it is just a 'little helper' it is merely 'another weapon in an athlete's arsenal'</i>
neutral (no mechanism)	<i>no pressure to perform no career benefit no pressure to improve no injury to recover from no financial benefit no performance benefit</i>

MORAL DISENGAGEMENT MECHANISMS & DOPING

Figure 1. Guilt as a mediator of the effect of moral disengagement on doping likelihood. The unstandardized coefficients for each effect are reported. The residual effect is shown in brackets. Note: * $p < .05$

