Moral disengagement in sport

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1 Running Head: MORAL DISENGAGEMENT

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4 Moral Disengagement in Sport

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1 ***Abstract***

2 Historically, theories of morality have focussed predominantly on moral cognition at the
3 expense of moral action (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). One theory
4 that considers moral action as well as moral cognition is Bandura's (1991) Social
5 Cognitive Theory of Moral Thought and Action. One aspect of this theory that has
6 recently proved particularly popular with researchers investigating sport morality is that
7 of moral disengagement. Moral disengagement is a collective term for eight psychosocial
8 mechanisms that selectively inhibit moral standards from preventing reprehensible
9 conduct by disengaging self-reproof when one engages in conduct that contravenes one's
10 moral standards (Bandura, 2002). In this review, research examining moral
11 disengagement in the sport context is discussed. Research in this area can be grouped into
12 two broad categories: (a) moral disengagement and behaviours that occur during sport
13 participation, and (b) moral disengagement and doping in sport. The present review
14 considers work addressing both categories. Within each category, the main findings of
15 pertinent studies are discussed, and strengths and weaknesses of these studies are
16 identified. The review concludes with directions for future research.

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18 Keywords: moral action, moral cognition, moral emotion.

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1 **Moral Disengagement in Sport**

2 It could be argued that sport is a context that provides participants with
3 opportunities for development of self-control, conflict resolution, and learning to work
4 with others. Unfortunately, it is also a milieu in which individuals engage in transgressive
5 acts such as rule breaking and deception. Moral issues in sport have attracted an
6 abundance of research interest, and recently there has been a move towards a focus on
7 behaviour in such research (see Kavussanu, 2007, 2008). Research in this area ultimately
8 aims to increase understanding of what leads athletes to engage in transgressive acts and
9 how the frequency of such acts can be reduced. One theory that is concerned with the
10 regulation of moral behaviour is Bandura's (1991) Social Cognitive Theory of Moral
11 Thought and Action. As such, this theory represents an ideal framework for research
12 investigating moral behaviour in sport.

13 Bandura (1991) details a process describing how moral action is regulated. One
14 pertinent aspect of this process is moral disengagement, which involves the selective
15 inhibition of moral standards that deter reprehensible conduct by disengaging self-reproof
16 when one engages in conduct that breaches one's moral standards (Bandura, 2002).
17 Moral disengagement is volitional, that is individuals can choose to morally disengage or
18 not. Finding ways to discourage moral disengagement may lead to less frequent
19 transgressive behaviour in people with high moral standards as these standards are
20 assumed to deter such conduct. Bandura's (1991) theory is particularly applicable here
21 because it describes specific mechanisms through which people can morally disengage.

22 A review of moral disengagement research in sport would provide an overview of

1 research findings and stimulate further interest in this area of research. The specific aims
2 of the current review are to: (a) provide a clear and concise description of Bandura's
3 (1991) theory and how it applies to sport; (b) critically review moral disengagement
4 research in sport; and (c) provide directions for future moral disengagement research in
5 sport.

6 ***Bandura's (1991) Theory***

7 Bandura (1991) suggested that any comprehensive theory of morality must
8 explain how moral reasoning combines with other psychosocial factors to direct moral
9 action. In his theory of moral thought and action, Bandura (1991) presented such a
10 theory. Key aspects of this theory describe the importance of self-regulation and moral
11 disengagement in determining people's moral conduct. The next section details these
12 aspects of Bandura's (1991) theory.

13 *The self-regulatory process*

14 According to Bandura (1991), moral behaviour is motivated and regulated by
15 personal and social sanctions expected to result from such conduct. Regarding personal
16 sanctions, people avoid engaging in harmful acts because they anticipate self-rebuke, and
17 they engage in positive social acts because they expect self-satisfaction and self-respect.
18 Similarly, detrimental conduct is controlled via social sanctions whereby people abstain
19 from such conduct when they anticipate that they will be criticised by others as a result,
20 and people engage in positive social acts when they expect others to praise such conduct.

21 Although both personal and social sanctions are important, Bandura (1991) views
22 personal sanctions as the predominant regulator of moral conduct once moral standards

1 have developed and been internalised. Social sanctions are considered relatively weak
2 deterrents to transgression because many acts occur in the absence of social censure. In
3 contrast, people preside over their conduct regardless of whether social sanction is
4 present or not. As such, Bandura (1991) purports that personal sanction plays a more
5 central role in regulating moral conduct in comparison to social sanction.

6 Bandura (1991) described how personal sanctions operate through three major
7 subfunctions: self-monitoring of conduct, judgement of conduct, and affective self-
8 reaction. People first monitor their behaviour, then make judgements regarding the moral
9 nature of the act, and finally experience affective reactions based on the judgements they
10 make. It is the anticipation of these affective reactions that regulates behaviour.
11 Behaviour corresponding to personal standards results in pleasant emotions (e.g., pride)
12 thereby promoting such acts whereas conduct that deviates from personal standards
13 results in negative self-condemning affect (e.g., guilt) thus deterring such behaviour.

14 *Moral disengagement*

15 The judgements made regarding the moral nature of behaviour are impacted by
16 psychosocial factors related to how one interprets the environmental conditions in which
17 a particular act takes place. The self-regulatory process details how antisocial conduct is
18 deterred by the anticipation of resultant negative affect. However, people still engage in
19 conduct that is harmful to others. Accordingly, Bandura (1991) describes eight
20 psychosocial mechanisms that allow people to act in ways normally considered immoral
21 without experiencing the negative affect usually associated with such conduct. Use of
22 these mechanisms is termed moral disengagement. The mechanisms operate on one or

1 more of three points in the process of moral control (Bandura, 1986), and can be grouped
2 into four sets based on the point/s on which they act.

3 The first set of mechanisms operates on the detrimental conduct itself and
4 includes moral justification, euphemistic labelling, and advantageous comparison. Moral
5 justification entails the cognitive reconstrual of a harmful behaviour into a praiseworthy
6 one, making it personally and socially acceptable by depicting it as facilitating a valued
7 social or moral purpose (Bandura, 1991). In sport, injurious conduct can be justified as a
8 means of upholding team honour. Euphemistic labelling involves the discerning use of
9 language to cognitively disguise blameworthy behaviours as less harmful (Bandura,
10 1991). In sport, athletes describe how they “bend the rules” rather than break them.
11 Advantageous comparison involves comparing detrimental acts with more harmful ones,
12 making them appear benign in comparison (Bandura, 1991). For example, athletes are
13 able to justify the use of abusive language by comparing it to the use of physical violence
14 making the former appear benign in comparison.

15 The second set of mechanisms concerns one’s accountability for action, and
16 includes displacement and diffusion of responsibility. Displacement of responsibility
17 occurs when people view their behaviour as resulting from social pressure or instruction
18 from an authority figure and not something for which they are personally accountable
19 (Bandura, 1991). In sport, athletes may displace responsibility for unfair tactics to their
20 coach. Diffusion of responsibility occurs through division of labour, group decision
21 making, or group action (Bandura, 1991). In division of labour, group members perform
22 subdivided tasks that are not harmful in isolation but are harmful when performed in

1 combination. Group decision making involves minimising individual responsibility for
2 decisions made (Bandura, 1991), and group action entails attribution of any harm to other
3 group members. In sport, diffusion of responsibility could occur through group decision
4 making or group action, for example, when players attribute their antisocial behaviour to
5 collective team decisions to engage in antisocial practices, or to the fact that most players
6 on their team behave antisocially. Although examples of division of labour are not
7 obvious in sport an example in non-sport contexts is seen when prison guards perform
8 subdivided tasks to achieve the collective task of executing convicts (cf. Bandura, 2002).

9 The third set of mechanisms targets the consequences of detrimental conduct and
10 consists of distortion of consequences. This mechanism involves the avoidance or
11 cognitive diminishment of the harm caused by pernicious conduct (Bandura, 1991).
12 Research on obedient aggression has shown that people are less likely to maintain
13 harmful conduct if the suffering of the victim is apparent (Milgram, 1974). Thus, if one is
14 able to avoid or minimize the harm caused, the continuation of harmful behaviour is more
15 likely. In sport, distortion of consequences occurs when athletes avoid finding out the
16 extent of injuries they have caused or when they deny the seriousness of such injuries.

17 The final set of mechanisms operates on the victim of the act and consists of
18 dehumanization and attribution of blame. Dehumanization involves cognitively divesting
19 victims of their human qualities or attributing animal-like qualities to them (Bandura,
20 1991). People find it easier to act badly towards others when they perceive less similarity
21 between themselves and their victim. This occurs in sport when athletes describe
22 opponents as animals or suggest that they lack human qualities. Finally, attribution of

1 blame occurs when people consider themselves forced to harm another due to perceived
2 provocation by their victim or the situation (Bandura, 1991). This occurs in sport when a
3 player is fouled by an opponent and then acts in a similar or even more gratuitous fashion
4 in retaliation. Through attribution of blame the player retaliating is able to misconstrue
5 the situation in such a way as to justify his or her transgressive act due to a perceived lack
6 of choice in reacting this way.

7 Moral disengagement was first investigated in non-sport contexts. Early research
8 demonstrated that moral disengagement was positively linked with delinquent conduct,
9 transgressive behaviour, and proneness to aggression, and negatively related to prosocial
10 behaviour in samples of Italian school children (Bandura et al., 1996; Bandura, Caprara,
11 Barbaranelli, Pastorelli, & Regalia, 2001). Subsequently, moral disengagement has also
12 been linked to the implementation of the death penalty (Osofsky, Bandura, & Zimbardo,
13 2005), transgression of civic duties (Caprara & Capanna, 2005), support of military force
14 (McAlister, Bandura, & Owen, 2006), and bullying in schools (Menesini, Sanchez, Fonzi,
15 Ortega, Constabile, & Lo Feudo, 2003) and prisons (South & Wood, 2006).

16 More recently, researchers have started to investigate moral disengagement in the
17 context of sport. In the research conducted to date moral disengagement has been
18 positively linked with transgressive and antisocial behaviour and negatively associated
19 with prosocial behaviour (e.g., Boardley & Kavussanu, 2007; Long, Pantaléon, Bruant, &
20 d'Arripe-Longueville, 2006; Boardley & Roleston, 2010; Lucidi, Grano, Leone,
21 Lombardo, & Pesce, 2004). The purpose of the sections that follow is to provide a
22 detailed review of moral disengagement research in sport.

1 *Research in Sport*

2 Sport moral disengagement research can be categorised into two broad groups: (a) moral
 3 disengagement and behaviours that occur during sport participation, and (b) moral
 4 disengagement and doping (i.e., intention to dope or actual doping) in sport. The purpose
 5 of this section is to review work conducted in each of these categories. The review first
 6 focuses on work concerning moral disengagement and behaviours that occur during sport
 7 participation before covering research investigating moral disengagement and doping in
 8 sport. In each subsection the main research findings are discussed, followed by an
 9 evaluation of their main strengths and weaknesses. Qualitative and quantitative studies
 10 are discussed separately.

11 *Moral disengagement and behaviours occurring during sport participation*

12 *Qualitative research.* Long et al. (2006) conducted the first qualitative study to
 13 provide evidence of moral disengagement in sport. One particularly interesting aspect of
 14 this study was that the researchers did not specifically set out to investigate moral
 15 disengagement. The study purpose was to determine young elite athletes' perceptions of
 16 reasons for rule compliance and transgression in competitive settings. However, when
 17 articulating reasons for transgressive acts the athletes demonstrated moral disengagement.
 18 The sample consisted of ten male athletes enrolled in national and international sports
 19 competition, who were aged 15 to 18 years ($M = 16.5$) and participated in the sports of
 20 football, rugby, or judo. The researchers employed semi-structured interviews to
 21 investigate athletes' reasons for sports rules violations.

22 The largely inductive analysis (i.e., the search for patterns in data to develop

1 explanations/theories; Bernard & Ryan, 2010) of the data relating to sports rules
2 violations provided evidence of moral disengagement. For example, a football player was
3 quoted as saying:

4 “We are told to break the rules sometimes, you have to.....and simulating is
5 part of the game too. The coach tells you this; when you are in the penalty
6 area, you dribble, if you are hit, you must fall down.”

7 Long et al. (2006) described how this quote is consistent with displacement of
8 responsibility as the player is absolving himself of responsibility by suggesting he has no
9 choice but to act this way when instructed to do so by an authority figure such as a coach.
10 However, use of a second mechanism is also apparent. Describing faking a foul as
11 “simulating” is an example of euphemistic labelling as it uses sanitising language to mask
12 the true nature of the action.

13 A further example quote from a rugby player provides evidence of other moral
14 disengagement mechanisms:

15 “An opponent hurts a team-mate. The referee doesn’t punish him as he
16 should....well, I’ll kill the opponent during the next play.”

17 Long et al. (2006) identified the use of moral justification here as the transgressive act is
18 construed as morally acceptable because it serves the socially laudable purpose of
19 defending a team-mate. However, two other mechanisms that Long et al. (2006) did not
20 discuss may also be apparent. First, as the player is acting in response to something the
21 other player has done, the perpetrator may be viewing his action as a forced response to
22 the victim’s own action thus demonstrating attribution of blame. Second, by saying he

1 acts this way when the referee does not punish the opposing player as he should the
2 player is displacing responsibility to the referee as the player believes the situation
3 created by the referee is causing him to act this way.

4 Long et al. (2006) also provided evidence of diffusion of responsibility (e.g.,
5 everyone does it therefore it is part of the game), as well as demonstrating that moral
6 disengagement occurred in all three sports (i.e., football, rugby, and judo). However,
7 identification of all instances of moral disengagement was not a study purpose and
8 therefore Long et al. (2006) did not specifically report which mechanisms were or were
9 not represented in their data. Although five mechanisms could be identified from the
10 quotes provided, it is not known whether the remaining three mechanisms were not used
11 by the athletes or that their use was merely not reported. This study provided initial
12 evidence of moral disengagement in sport, and highlighted the need for a purposeful
13 qualitative investigation of moral disengagement in sport.

14 The second qualitative study was conducted to specifically investigate moral
15 disengagement in male and female adult elite basketball ($n = 12$) and taekwondo ($n = 12$)
16 athletes (Corrion et al., 2009). Corrion et al. (2009) applied both inductive and deductive
17 (i.e., using existing theory to analyse data and confirm/disconfirm theory; Bernard &
18 Ryan, 2010) techniques when analysing the data from the interview transcripts, resulting
19 in the identification of two streams of Meaning Units (MU; i.e., sections of text
20 comprising words, phrases, or entire paragraphs communicating the same idea and
21 related to the same topic; Tesch, 1990). The first MU stream related to the behaviour
22 type, and the second to the moral disengagement mechanism used. In total, the

researchers identified 256 MU for the behaviour type and 502 MU for the moral disengagement mechanisms associated with the behaviours.

The MU corresponding to the reasons given for engaging in transgressive acts represented all eight moral disengagement mechanisms. Frequency counts for each were reported in two ways. First, the total number of MU for each mechanism was presented, and second the number of athletes who used each mechanism was shown. The most frequently used mechanism was displacement of responsibility (152 MU) and the least frequent was dehumanisation (4 MU); displacement of responsibility, attribution of blame, distortion of consequences, and diffusion of responsibility were used far more frequently than the other three mechanisms. All 24 athletes used displacement of responsibility, attribution of blame, distortion of consequences, and diffusion of responsibility, whereas euphemistic labelling ($n = 23$), moral justification ($n = 11$), advantageous comparison ($n = 5$), and dehumanisation ($n = 3$) were not used by all.

Although Corrion et al. (2009) reported interesting findings, there are some important caveats that should be considered when interpreting these findings. First, participants selected which transgressive acts to recount, thus, they may have chosen not to disclose other behaviours that they were not willing to discuss. This disclosure may also have been influenced by the relationship established between the interviewer and interviewee. Different moral disengagement mechanisms may have been apparent if participants had discussed behaviours that they chose not to disclose. Also, the reliability of frequency data based on qualitative data is dependent on the correct identification of all categories and codes present in the data as well as the subsequent identification of all

1 instances of these within the data. Although Corrion and colleagues went to great lengths
2 to maximise the reliability of their data analysis, the subjective nature of such analysis
3 means the frequency data reported in this study should be interpreted with the inherent
4 limitations of qualitative data analysis in mind.

5 The third qualitative study investigated: (a) the moral disengagement mechanisms
6 used when football players engage in antisocial conduct, and (b) whether the frequency
7 with which particular mechanisms were used differed as a function of behaviour type
8 (Tractlet, Romand, Moret, & Kavussanu, in press). Cheating, instrumental aggression,
9 hostile aggression against an opponent, and hostile aggression against the referee were
10 examined. The sample consisted of 30 regional-level French male football players aged
11 16 to 22 ($M = 19.23$). The researchers employed stimulated recall interviews which
12 consisted of participants first viewing a video showing their engagement in one antisocial
13 act for each behaviour type and then articulating the reasons that underpinned their
14 engagement in the act.

15 The researchers identified 162 MU representing moral disengagement for the 120
16 transgressive acts and reported the frequency with which each of the four behaviour types
17 was associated with each mechanism. Cheating acts were the most-common behaviour
18 for displacement of responsibility (22 of 45 MU) and distortion of consequences (9 of 19
19 MU). Instrumental aggression was the most frequent act for diffusion of responsibility (6
20 of 13 MU), moral justification (19 of 38 MU), and euphemistic labelling (8 of 17 MU).
21 For attribution of blame, hostile aggression towards opponents was the most common act
22 (21 of 30 MU). No occurrences of advantageous comparison and dehumanisation were

evident and hostile aggression towards referees was not the most frequently reported act for any of the mechanisms. The data were also analysed within each of the behaviour types to determine how frequently each mechanism was used for each behaviour type. The most frequently used mechanism for cheating acts was displacement of responsibility (17 of 30 acts), whereas for instrumental aggression it was moral justification (9 of 30 acts). For hostile aggression towards opponents attribution of blame was most frequent (23 of 30 acts) and for hostile aggression towards referees displacement of responsibility and moral justification were equally (11 of 30 acts for each) most common.

Traclet et al. (in press) utilised stimulated recall in their study of moral disengagement. The way in which the technique was applied meant that the relative frequency of each behaviour type may not have been represented in the study data. More specifically, the researchers controlled the number of times each behaviour type was viewed by participants (i.e., one for each type). However, in reality certain behaviours (i.e., instrumental aggression and cheating behaviours) are likely to occur more often than others (i.e., hostile behaviours against the referee). As a consequence, the frequency with which each mechanism was used may have been affected. Also, no distinction was made between perceived and actual bad officiating. It is possible that some athletes were displacing responsibility or attributing blame to referees when no officiating error had taken place. Future researchers are encouraged to assess whether moral disengagement occurs as a result of real or merely perceived impartiality and inconsistency of officiating. In relation to this point, researchers should take care when identifying specific mechanisms when officials are held accountable for transgressions. In such cases, if the

1 victim is someone other than the official then the offender is displacing responsibility to
2 the official because attribution of blame only occurs when the victim is targeted (see
3 Bandura, 1986). However, when the official is the victim attribution of blame is apparent.

4 The findings of the studies reviewed above contribute to our understanding of
5 how athletes actually morally disengage by offering real-world examples of its use. One
6 strength of these studies is the identification and analysis of individual mechanisms of
7 moral disengagement and the frequency with which each mechanism is used for specific
8 behaviour types and sports. Further, we now have evidence that moral disengagement
9 occurs in both sexes, at elite and regional levels, and in a variety of sports. In addition,
10 collectively these studies suggest displacement of responsibility is a particularly pertinent
11 mechanism in sport. Whether responding to implicit or explicit instructions from their
12 coach, or feeling compelled to act in response to perceived officiating errors, athletes
13 from a variety of sports appear able to reduce their feelings of accountability through use
14 of this mechanism.

15 The findings of these studies support Bandura's (1991) theory. First, they
16 established a strong link between moral disengagement and transgressive behaviour.
17 Athletes provided justification that often resonated with one or more moral
18 disengagement mechanisms. The findings of the studies also support the conjoint
19 operation of moral disengagement mechanisms. Bandura (2002) describes how moral
20 disengagement mechanisms operate together to facilitate harmful conduct. The findings
21 show such combined use of moral disengagement mechanisms in sport.

22 *Quantitative research.* Quantitative approaches have been applied to the

investigation of moral disengagement during sport participation in a number of studies. In this section we detail the main characteristics of quantitative sport-specific moral disengagement instruments and review the main findings of studies that have used quantitative techniques to investigate moral disengagement in sport.

Boardley and Kavussanu (2007) developed the Moral Disengagement in Sport Scale (MDSS). The MDSS is a 32-item measure of moral disengagement in sport developed across two studies ($n_{\text{total}} = 613$; $M_{\text{age}} = 21.77$ years). The scale consists of six dimensions (rather than eight) because two pairs of mechanisms were empirically indistinct. Specifically, moral justification and euphemistic labelling items collectively formed a *conduct reconstrual* dimension, and diffusion and displacement of responsibility items formed a *nonresponsibility* dimension. Convergence of these mechanisms has theoretical support (see Bandura, 1991). Regarding conduct reconstrual, moral justification and euphemistic labelling both permit the reconstrual of transgressive behaviour as less harmful. With respect to nonresponsibility, diffusion of responsibility and displacement of responsibility both minimise personal liability for engagement in, or the consequences of, transgressive acts. The convergence was also consistent with moral-disengagement scales developed for other contexts which have shown convergence of mechanisms (e.g., Bandura et al., 1996; Osofsky et al., 2005). Evidence for the content, concurrent, convergent, and discriminant validity and internal consistency ($\alpha = .73$ to $.95$) of the MDSS was also provided (see Boardley & Kavussanu, 2007). As part of the evidence for the construct validity of the scale, Boardley and Kavussanu (2007) demonstrated strong positive associations between moral disengagement and reported

antisocial behaviour (i.e., behaviour intended to harm or disadvantage another individual), and moderate negative correlations with reported prosocial behaviour (i.e., behaviour intended to help or benefit another individual).

Comparable with research in other contexts (e.g., Bandura et al., 1996), Boardley and Kavussanu (2007) found that moral disengagement was higher in males than in females, with effect sizes for this difference being moderate to large in the two studies conducted (Study 1 $\eta^2 = .21$; Study 2 $\eta^2 = .18$). Researchers have found that male players in the sports of football and handball engage more often in transgressive (i.e., antisocial/aggressive) acts than female players in these sports (Coulomb-Cabagno & Rasclé, 2006; Coulomb-Cabagno, Rasclé, & Souchon, 2005; Kavussanu, Stamp, Slade, & Ring, 2009). Engagement in these acts may require moral disengagement to prevent aversive affective responses and over time more frequent engagement in such conduct may develop a greater propensity for moral disengagement in males compared to females. It has been suggested that greater reinforcement of harmful behaviour in males compared to females due to established views of masculinity may explain why males transgress more often than females in sport (Coulomb-Cabagno et al., 2005). It is also possible that the people who reinforce transgressive behaviour in males morally disengage during this process and therefore model its use. This too may explain higher levels of moral disengagement in males compared to females.

Subsequent work by Boardley and Kavussanu (2008) resulted in a short version of the MDSS: the Moral Disengagement in Sport Scale – Short (MDSS-S). The MDSS-S consists of a subset of eight items (i.e., one for each mechanism) from the MDSS selected

through analysis of MDSS data from 992 team-sport players ($M_{age} = 21.92$ years). Example MDSS/MDSS-S items are ‘Insults among players do not really hurt anyone’ (i.e., distortion of consequences) and ‘Players who are mistreated have usually done something to deserve it’ (i.e., attribution of blame). The unidimensionality of the MDSS-S was determined through exploratory and confirmatory factor analyses. Further, the measurement invariance of the MDSS-S was demonstrated among the sports of rugby, basketball, hockey, and netball, and between football and rugby. The partial measurement invariance of the scale was evidenced between football and hockey and netball. Evidence was also provided for the scale’s concurrent and convergent validity, and its internal consistency ($\alpha = .80-.85$). Aspects of the psychometric properties of both scales still remain to be tested though. Specifically, the measurement invariance of the MDSS has not been shown across any groups, and the reasons for the MDSS-S having only partial measurement invariance among certain groups needs to be investigated further. Finally, the test-retest reliability of the scales is currently unknown.

Boardley and Kavussanu (2009) investigated whether moral disengagement mediated the effects of athletes’ perceptions of their coach’s character-building competency (i.e., a coach’s ability to influence their athletes’ personal development and positive attitudes towards sport; Myers, Feltz, Maier, Wolfe, & Reckase, 2006) on prosocial and antisocial behaviour toward teammates and opponents. Participants were 379 field hockey and netball players (59.1% female; $M_{age} = 22.2$ years) competing at club to international levels. Athletes who perceived that their coach was high in character building competency reported engaging more frequently in prosocial behaviour towards

opponents (e.g., helping an injured opponent), and less frequently in antisocial behaviour toward both opponents (e.g., trying to injure an opponent) and team-mates (e.g., verbally abusing a teammate). Importantly, moral disengagement mediated fully the effect of character-building competency on prosocial and antisocial behaviours toward opponents and partially its effects on antisocial behaviour toward team-mates. The path coefficients for the prediction of antisocial teammate behaviour, antisocial opponent behaviour, and prosocial opponent behaviour by moral disengagement were .26, .74, and -.19, respectively. Overall, these results suggest that moral disengagement may be an important mechanism through which coaches influence players' prosocial and antisocial behaviour in sport.

In further research, Boardley and Kavussanu (2010) investigated whether moral disengagement mediates the effects of ego orientation (i.e., tendency to use normative criteria to evaluate competence; Nicholls, 1989) and perceived value of toughness (i.e., importance attached to dominating others to gain acceptance and status; South & Wood, 2006) on male football players' ($N = 307$; $M_{\text{age}} = 21.39$ years) antisocial behaviour toward opponents and teammates. Perceived value of toughness and ego orientation had positive effects on both types of antisocial behaviour, which were mediated by moral disengagement. The path coefficients from perceived value of toughness and ego orientation to moral disengagement were .37 and .14, respectively, and .63 and .33, respectively, from moral disengagement to antisocial opponent behaviour and antisocial teammate behaviour. Thus, moral disengagement may be important in explaining any effects of ego orientation and perceived value of toughness on antisocial behaviour.

Finally, d'Arripe-Longueville, Corrion, Scoffier, Roussel, and Chalabaev (2010) investigated moral disengagement as part of an investigation of the self-regulatory mechanisms governing prosocial behaviour and the acceptability and likelihood of cheating in male and female adolescents ($n = 804$; $M_{\text{age}} = 17.2$ years). d'Arripe-Longueville et al. (2010) found moral disengagement mediated the moderate negative prediction of the acceptability and likelihood of cheating by Negative Affective Self-Regulatory Efficacy (NASRE; i.e., perceived efficacy to regulate negative affect). The path coefficient from NASRE to moral disengagement was $-.42$ for females and $-.38$ for males, and $.20$ for females and $.31$ for males from moral disengagement to likelihood of cheating. They also found moral disengagement mediated the moderate positive prediction of prosocial behaviour by NASRE. The path coefficient from moral disengagement to prosocial behaviour was $-.30$ for both sexes. Thus, confidence in the ability to regulate negative emotion may be influential in regulating positive and negative social behaviours, and moral disengagement may be a key mediating variable explaining this effect. One weakness of this study is that the authors did not provide specific information relating to the sport experiences (e.g., type, level) of the study participants. Such information would have allowed greater understanding of which populations the study findings apply to.

The studies reviewed in this subsection share certain strengths and weaknesses. The first strength is the consistently impressive samples sizes which permit confidence in the reliability of the study findings. The second strength is the theoretical background that underpinned these studies as they all tested theory-driven hypotheses. One caveat to the

findings of these studies is that the behaviour measures utilised were all self-report and therefore potentially influenced by social desirability. In addition, all studies were cross-sectional which limits assertions about cause and effect relationships.

The findings of these studies provide some support for Bandura's (1991) theory. First, the studies provide quantitative evidence of a moderate-to-strong positive relationship between moral disengagement and transgressive behaviour. These findings are in agreement with Bandura's (1991) suggestion that moral disengagement promotes transgressive conduct. A unique contribution of a number of the studies was their investigation of prosocial behaviour. The findings of Boardley and Kavussanu (2007, 2008, 2009) and of d'Arripe-Longueville et al. (2010) are consistent with Bandura's (1991) contention that moral disengagement leads to less frequent prosocial behaviour. Whilst not as strong as the relationship between moral disengagement and antisocial behaviour, the links between moral disengagement and prosocial conduct have still largely been moderate in strength and are therefore worthy of further investigation.

Moral disengagement and doping in sport

The only sport-relevant transgressive behaviour occurring outside of sport that has been investigated in moral disengagement research is doping. Doping refers to the use of illicit performance-enhancing substances to improve performance. In this section, we review the findings of qualitative and quantitative research that has investigated moral disengagement in relation to doping and/or the intention to dope.

Qualitative research. To date, just one study has taken a qualitative approach to the investigation of moral disengagement and doping in sport. Boardley and Roleston

(2010) conducted semi-structured interviews with nine doping male body builders from a gym in central England. Inductive followed by deductive data analyses provided evidence of moral disengagement in all nine athletes. Three mechanisms were used by all nine athletes: distortion of consequences (e.g., playing down the health consequences of doping), advantageous comparison (e.g., comparing doping to stealing/alcohol abuse), and diffusion of responsibility (e.g., suggesting most bodybuilders dope).

Use of other moral disengagement mechanisms was also apparent. Displacement of responsibility (e.g., knowing the strongest athletes dope encourages doping) was used by eight of the nine athletes and six showed evidence of euphemistic labelling (e.g., use of sanitising terms such as gear or juice when referring to doping substances). Although less common ($n = 2$), moral justification (e.g., doping helps you to advise others on safe doping) was also evident. There was however, no evidence of dehumanisation or attribution of blame. The absence of dehumanisation was consistent with other qualitative studies of moral disengagement in sport, which have either reported no evidence (Long et al., 2006; Traclet et al., in press) or very low frequency (Corrion et al., 2009) of this mechanism. For attribution of blame, it is possible that this mechanism was not used because the primary victim of doping here was the athlete himself, and use of this mechanism would therefore have involved athletes attributing blame inwardly. Overall, Boardley and Roleston (2010) provide initial evidence that bodybuilders morally disengage when discussing their doping.

There is evidence of greater prevalence of doping in athletes from sports that require high levels of physical strength such as bodybuilding (e.g., Thiblin & Petersson,

2005). What is less well known is how such athletes rationalise doping. Boardley and Roleston (2010) contribute understanding in this area by showing how moral disengagement may be an important facilitator of doping in bodybuilders. Previous work in such populations found evidence that dopers and ex-dopers believed a greater number of others doped than did non-dopers (Wiefferink, Detmar, Coumans, Vogels, & Paulussen, 2008). By showing evidence of displacement and diffusion of responsibility in doping bodybuilders, Boardley and Roleston (2010) demonstrate how such perceptions may facilitate doping through use of these mechanisms.

The primary weakness in the Boardley and Roleston (2010) study was the nature of the sample as participants were male only, and sampled from just one sport and one gym. Thus, it is possible that the results of the study are specific to bodybuilders, and that moral disengagement may not be apparent in, or be used differently by, doping athletes from other sports. Further, the results may even be specific to athletes from this particular gym. Due to the social nature of moral disengagement, it is likely that how athletes actually morally disengage may be quite specific to particular environments. Finally, due to the male-only sample in this study, there is currently no qualitative evidence of moral disengagement in female doping athletes. Clearly, although this study provides initial evidence of moral disengagement in doping athletes, further research is required with male and female athletes from a variety of gyms and sports before we fully understand the qualitative nature of moral disengagement in doping athletes.

Quantitative research. The first study of moral disengagement and intentions to dope was conducted by Lucidi et al. (2004). The study sample consisted of 952 Italian

1 students (50.1 % male) involved in sport at various levels, 3.1% of whom reported
2 doping. Moral disengagement was a weak-to-moderate positive predictor of intention to
3 dope with a path coefficient of .16. One of this study's weaknesses was the use of
4 Bandura et al.'s (1996) moral disengagement measure which is not doping specific.
5 Ensuing work by Lucidi, Zelli, Mallia, Grano, Russo, and Violani (2008) rectified this
6 weakness.

7 Lucidi and colleagues (2008) progressed their investigation of adolescents'
8 intentions to dope by also assessing reported doping as an outcome variable. This
9 longitudinal study utilised a sample of 1232 Italian adolescents (51% female), 54.8% of
10 whom had engaged in sport activity in the past three months. Participants were assigned
11 to either a "psychometric" ($n = 218$) or a "longitudinal" ($n = 1014$) condition. Those in
12 the psychometric condition provided data to help develop a measure of doping moral
13 disengagement. Although this was a welcome progression from the previous study, the
14 athletes who helped develop the items for this scale were selected because they practised
15 sports on a regular basis and not because they had experience of doping. Ideally,
16 instruments designed to measure doping-specific cognitions should be developed using
17 athletes with experience of doping. Athletes assigned to the longitudinal condition were
18 asked to provide data on two occasions three months apart (75.1% completed on both
19 occasions). Of the 762 participants who completed the measures at the second time point,
20 2.1% reported doping in the past 3 months. Moral disengagement at Time 1 moderately
21 and positively predicted intention to dope at Time 1 (path coefficient = .21), and intention
22 to dope and moral disengagement at Time 1 moderately and positively predicted doping

1 at Time 2 (path coefficient = .31). Thus, moral disengagement was positively linked with
2 Italian adolescents' intention to dope and reported doping.

3 Lucidi and colleagues conducted another study in which they investigated moral
4 disengagement, intentions to dope, and reported doping (Zelli, Mallia, & Lucidi, 2010).
5 Novel contributions of this study was that reported doping was assessed at two time
6 points and that appraisals of interpersonal encounters encouraging doping were examined
7 as a moderator of the relationships between moral disengagement and doping intentions.
8 The sample consisted of 1022 (50.6% male) Italian high-school students ($M_{\text{age}} = 16$
9 years), 84.5% of whom provided data at two time points four to five months apart. Of
10 these, only a small number reported doping (Time 1 = 1%; Time 2 = 2.1%). Moral
11 disengagement was a weak positive predictor of Time 1 doping intentions (path
12 coefficient = .08) which in turn was a moderate positive predictor of Time 2 doping (path
13 coefficient = .19).

14 Students' appraisals of eight interpersonal encounters encouraging doping (e.g., a
15 peer or coach advising or encouraging the use of doping substances) were also assessed.
16 Scenarios depicting such encounters were rated on four dimensions: (a) the likelihood the
17 counterpart acted in the protagonist's interest and welfare (positive appraisal), (b) for his
18 own personal interest (instrumental appraisal), (c) to harm the protagonist (negative
19 appraisal), and (d) the likelihood they would do what they were encouraged to do
20 (behavioural appraisal). Ratings were used to calculate an appraisal index for each
21 individual ranging from zero to four, with higher scores indicating a greater tendency to
22 make appraisals favouring or possibly leading to doping use (see Zelli et al. for a full

1 description of how appraisal indexes were calculated).

2 Using the appraisal index score participants were categorised into those with: (a)
3 no problematic appraisals (index = 0; $n = 148$); (b) moderately problematic appraisals
4 (index = 1 or 2; $n = 400$); or (c) highly problematic appraisals (index = 3 or 4; $n = 316$).

5 Multi-group analysis showed that moral disengagement was a moderate positive predictor
6 of doping intentions (path coefficient = .18) only for the highly problematic appraisals
7 group and did not predict doping intentions in the other two groups. It should be noted
8 that this analysis did not include reported doping use because none of the students who
9 showed no problematic appraisals at Time 1 reported doping at Time 2. Thus, moral
10 disengagement may only facilitate intention to dope in athletes who prophesise greater
11 personal benefits or less risk in interpersonal situations soliciting doping use.

12 Whilst large in size, the samples used in the three quantitative studies of Lucidi
13 and colleagues were not ideal. Specifically, they largely consisted of non-doping athletes,
14 with only between one and three percent of the participants reporting doping. As a result,
15 it is not known whether the relationships identified in these studies would be replicated in
16 a sample that included greater representation of doping athletes. Clearly, there is great
17 difficulty in sourcing samples of athletes who actually dope, but this is a challenge that
18 will need to be met if we are to fully understand the cognitions that facilitate doping in
19 athletes who actually dope.

20 Although the three studies reviewed in this subsection advanced knowledge on
21 moral disengagement in sport, their contribution to Bandura's (1991) theory was limited.
22 This is because the researchers drew from more than one theoretical perspective when

1 investigating social-cognitive mechanisms that regulate adolescents' doping. Specifically,
2 they investigated moral disengagement alongside constructs drawn from Ajzen's (1991)
3 theory of planned behaviour. Thus, although the studies added support for Bandura's
4 (1991) theory by establishing an empirical link between moral disengagement and a
5 novel transgressive behaviour (i.e., doping), research incorporating other aspects of
6 Bandura's theory may have made a greater contribution to our understanding of
7 Bandura's (1991) theory.

8 ***Future Directions***

9 Although research into moral disengagement in sport has increased over the past
10 decade, several research avenues remain unexplored. The first of these relates to the role
11 of emotion in the self-regulatory process. Bandura (1991) suggests that moral
12 disengagement operates by reducing or negating the anticipation of unpleasant emotions
13 (e.g., guilt) that normally result from harmful acts. However, research to date has
14 focussed on the link between moral disengagement and behaviour and not investigated
15 the effect of moral disengagement on anticipation of emotion. Thus, researchers are
16 encouraged to test the affective aspects of Bandura's (1991) theory. Such research would
17 help determine the relative importance of emotion compared to cognition in regulating
18 antisocial behaviour in sport.

19 Another potential area for future work relates to the developmental precursors of
20 moral disengagement. Recent prospective research with males from low-income families
21 demonstrated that factors such as early rejecting parenting, neighbourhood
22 impoverishment, and child empathy were associated with later moral disengagement

(e.g., Hyde, Shaw, & Moilanen, 2010). Similar research investigating precursors of moral disengagement in athletic populations is strongly encouraged. This would help determine how use of moral disengagement develops through athletes' formative years and provide guidance on whether early intervention could reduce the likelihood of its use.

The investigation of moral disengagement in two other areas would make an important contribution to research in this area. First, quantitative investigation of the link between individual moral disengagement mechanisms and different kinds of transgressive behaviour (e.g., cheating, instrumental aggression) is needed. Qualitative findings to date (Corrion et al., 2009; Traclet et al., in press) suggest that it is likely that different mechanisms are more important for certain behaviours compared to others. Quantitative research in this area would help us to understand whether different mechanisms predict different behaviour types with equal strength. Finally, quantitative moral disengagement research to date has utilised either cross-sectional or longitudinal designs. Future experimental research would help determine whether moral disengagement can be manipulated as well as whether it has a causal effect on moral behaviour in sport. Such research would be critical in determining the nature and efficacy of interventions aimed at reducing antisocial behaviour in sport through reductions in moral disengagement.

Conclusion

In conclusion, although the findings of the studies reviewed here have made an important contribution to research on moral disengagement in sport, considerable work remains to be done. To date, research has seen application of qualitative and quantitative

- 1 techniques in research investigating moral disengagement and behaviours occurring
- 2 during sport participation as well as in doping. Finally, future sport moral disengagement
- 3 research centred on the self-regulatory role of emotion, developmental influences, the
- 4 roles of individual mechanisms, and experimental research would make important
- 5 contributions to the existing literature in this area.

1 **References**

2 Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior And Human*
3 *Decision Processes*, 50, 179-211.

4 d'Arripe-Longueville, F., Corrion, K., Scoffier, S., Roussel, P., & Chalabaev, A. (2010).
5 Sociocognitive self-regulatory mechanisms governing judgments of the
6 acceptability and likelihood of sport cheating. *Journal of Sport & Exercise*
7 *Psychology*, 32, 595-618.

8 Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*.
9 Englewood Cliffs, NY: Prentice Hall.

10 Bandura, A. (1991). Social cognitive theory of moral thought and action. In W. M.
11 Kurtines, & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development:*
12 *Theory research and applications* (pp. 71-129). Hillsdale, NJ: Lawrence Erlbaum
13 Associates, Inc.

14 Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities.
15 *Personality and Social Psychology Review*, 3, 193-209.

16 Bandura, A. (2002). Selective Moral Disengagement in the Exercise of Moral Agency.
17 *Journal of Moral Education*, 31, 101-119.

18 Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Mechanisms of
19 moral disengagement in the exercise of moral agency. *Journal of Personality and*
20 *Social Psychology*, 71, 364-374.

21 Bandura, A., Caprara, G. V., Barbaranelli, C., Pastorelli, C., & Regalia, C. (2001).
22 Sociocognitive self-regulatory mechanisms governing transgressive behavior.

- 1 *Journal of Personality and Social Psychology*, 80, 125-135.
- 2 Bernard, H. R., & Ryan, G. W. (2010). *Analysing qualitative data*. London, UK: Sage
- 3 Publications Ltd.
- 4 Boardley, I. D., & Kavussanu, M. (2007). Development and validation of the moral
- 5 disengagement in sport scale. *Journal of Sport & Exercise Psychology*, 29, 608-
- 6 628.
- 7 Boardley, I. D., & Kavussanu, M. (2008). The moral disengagement in sport scale –
- 8 short. *Journal of Sports Sciences*, 26, 1507-1517.
- 9 Boardley, I. D., & Kavussanu, M. (2009). The influence of social variables and moral
- 10 disengagement on prosocial and antisocial behaviours in field hockey and netball.
- 11 *Journal of Sports Sciences*, 27, 843-854.
- 12 Boardley, I. D., & Kavussanu, M. (2010). Effects of goal orientation and perceived value
- 13 of toughness on antisocial behavior in soccer: The mediating role of moral
- 14 disengagement. *Journal of Sport & Exercise Psychology*, 32, 176-192.
- 15 Boardley, I. D., & Roleston, L. (2010). A qualitative investigation of moral
- 16 disengagement in doping athletes [abstract]. *The Proceedings of the British*
- 17 *Psychological Society*.
- 18 Caprara, G. V., & Capanna, C. (2005). Moral civic disengagement and values. *Ricerche*
- 19 *di Psicologia*, 28, 67-84.
- 20 Coulomb-Cabagno, G., & Rascle, O. (2006). Team sports players' observed aggression
- 21 as a function of sex, competitive level, and sport type. *Journal of Applied Social*
- 22 *Psychology*, 36, 1980-2000.

- 1 Coulomb-Cabagno, G., Rascle, O., & Souchon, N. (2005). Players' sex and male
2 referees' decisions about aggression in French soccer: A preliminary study. *Sex*
3 *Roles*, 52, 547-553.
- 4 Corrion, K., Long, T., Smith, A. L., & d'Arripe-Longueville, F. (2009). "It's not my
5 fault; it's not serious": Athlete accounts of moral disengagement in competitive
6 sport. *The Sport Psychologist*, 23, 388-404.
- 7 Hyde, L. W., Shaw, D. S., & Moilanen, K. L. (2010). Developmental precursors of moral
8 disengagement and the role of moral disengagement in the development of
9 antisocial behavior. *Journal of Abnormal Child Psychology*, 38, 197-209.
- 10 Kavussanu, M. (2007). Morality in sport. In S. Jowett & D. E. Lavallee (Eds.), *Social*
11 *psychology in sport* (pp. 265-278). Champaign IL: Human Kinetics.
- 12 Kavussanu, M. (2008). Moral behaviour in sport: A critical review of the literature.
13 *International Review of Sport and Exercise Psychology*, 1, 124-138.
- 14 Kavussanu, M., & Boardley, I. D. (2009). The prosocial and antisocial behavior in sport
15 scale. *Journal of Sport & Exercise Psychology*, 31, 97-117.
- 16 Kavussanu, M., Stamp, R., Slade, G., & Ring, C. (2009). Observed prosocial and
17 antisocial behaviors in male and female soccer players. *Journal of Applied Sport*
18 *Psychology*, 21(Supp. 1), S62-S76.
- 19 Long, T., Pantaléon, N., Bruant, G., & d'Arripe-Longueville, F. (2006). A qualitative
20 study of moral reasoning of young elite athletes. *The Sport Psychologist*, 20, 330-
21 347.
- 22 Lucidi, F., Grano, C., Leone, L., Lombardo, C., & Pesce, C. (2004). Determinants of the

- 1 intention to use doping substances: An empirical contribution in a sample of
- 2 Italian adolescents. *International Journal of Sport Psychology*, 35, 133-148.
- 3 Lucidi, F., Zelli, A., Mallia, L., Grano, C., Russo, P. M., & Violani, C. (2008). The
- 4 social-cognitive mechanisms regulating adolescents' use of doping substances.
- 5 *Journal of Sports Sciences*, 26, 447-456.
- 6 McAlister, A. L., Bandura, A., & Owen, S. V. (2006). Mechanisms of moral
- 7 disengagement in support of military force: The impact of Sept. 11. *Journal of*
- 8 *Social and Clinical Psychology*, 25, 141-165.
- 9 Menesini, E., Sanchez, V., Fonzi, A., Ortega, R., Constabile, A., & Lo Feudo, G. (2003).
- 10 Moral emotions and bullying: A cross-national comparison of differences
- 11 between bullies, victims and outsiders. *Aggressive Behavior*, 29, 515-530.
- 12 Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Cambridge, MA:
- 13 Harvard University Press.
- 14 Myers, N. D., Feltz, D. L., Maier, K. S., Wolfe, E. W., & Reckase, M. D. (2006).
- 15 Athletes' evaluations of their head coach's coaching competency. *Research*
- 16 *Quarterly for Exercise and Sport*, 77, 111-121.
- 17 Osofsky, M. J., Bandura, A., & Zimbardo, P. G. (2005). The role of moral disengagement
- 18 in the execution process. *Law and Human Behavior*, 29, 371-393.
- 19 South, C. R., & Wood, J. (2006). Bullying in prisons: The importance of perceived social
- 20 status, prisonization, and moral disengagement. *Aggressive Behavior*, 32, 490-
- 21 501.
- 22 Tesch, R. (1990). *Qualitative research analysis types and software tools*. New York:

1 Falmer.

2 Thiblin, I., & Petersson, A. (2005). Pharmacoepidemiology of anabolic androgenic
3 steroids: a review. *Fundamental & Clinical Pharmacology*, 19, 27-44.

4 Traclet, A., Romand, P., Moret, O., & Kavussanu, M. (in press). Antisocial Behavior in
5 Soccer: A Qualitative Study of Moral Disengagement. *International Journal of*
6 *Sport and Exercise Psychology*.

7 Wiefferink, C. H., Detmar, S. B., Coumans, B., Vogels, T., & Paulussen, T. G. W.
8 (2008). Social psychological determinants of the use of performance-enhancing
9 drugs by gym users. *Health Education Research*, 23, 70-80.

10 Zelli, A., Mallia, L., & Lucidi, F. (2010). The contribution of interpersonal appraisals to a
11 social-cognitive analysis of adolescents' doping use. *Psychology of Sport and*
12 *Exercise*, 11, 304-311.

13