

MORAL BEHAVIOR

1 Running Head: MORAL BEHAVIOR

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Moral Behavior

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Accepted: 25th May, 2017

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As accepted for publication in *Current Opinion in Psychology*

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2 Sport, at all competitive levels, is replete with incidents of antisocial behavior. Many
3 UK rugby fans would have witnessed Ben Flower punching his opponent Lance Hohaia in
4 the face twice, during the 2014 Rugby League Grand Final, and Tom Williams faking a blood
5 injury to enable an against-the-rules player substitution in the Heineken Cup quarter final, a
6 few years earlier. Admirable incidents of prosocial behavior also occur in sport. For example,
7 at the Rio Olympics last year, in a qualifying race for the 5000 meters, New Zealand's Nikki
8 Hamblin tripped and fell over, accidentally tripping up USA's Abbey D'Agostino. The latter
9 athlete got up quickly, but instead of running on ahead, to take advantage of her opponent's
10 fall, she stopped momentarily to help Hamblin to get up. In another event last year, the
11 Hopman Cup, a shining example of moral character took place: Tennis player Jack Sock
12 advised his opponent Lleyton Hewitt to challenge a line judge's call, when Hewitt's serve
13 was called out incorrectly, resulting in Hewitt winning the point.

14 Why do some athletes choose to help their opponents, act in an unselfish manner, and
15 abide by the rules of sport, even when these behaviors are against their own interests? Why
16 others act aggressively and cheat in order to take an unfair advantage over their opponent,
17 thus breaking the rules of the game? In this article, we will try to answer these intriguing
18 questions. We use the term prosocial behavior to refer to acts aimed to help or benefit another
19 (Eisenberg & Fabes, 1998), such as helping a player off the floor, or congratulating another
20 player, and the term antisocial behavior to refer to acts intended to harm or disadvantage
21 another (Sage, Kavussanu, & Duda, 2006); these include aggression and cheating. Prosocial
22 behavior is a manifestation of proactive morality, where people do good things, while the
23 absence of antisocial behavior reflects inhibitive morality, whereby people refrain from doing
24 bad things (see Bandura, 1999). In this article, we will discuss research that has focused on
25 understanding what leads to prosocial behavior, and the factors that facilitate or inhibit

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1 antisocial behavior, in sport. We will also explore the consequences of these behaviors for the
2 recipient within one's team, and we will discuss the concept of bracketed morality.

3 **Understanding Prosocial Behavior**

4 The variables that have been most consistently associated with prosocial behavior, in
5 sport research, are motivational variables, stemming from achievement goal theory (Ames,
6 1992; Nicholls, 1989), self-determination theory (Deci & Ryan, 1985), and the 2 x 2 model of
7 achievement motivation (Elliot & McGregor, 2001). Task goal orientation and mastery
8 motivational climate, two elements of achievement goal theory, reflect self-referenced criteria
9 for defining success and evaluating competence, that are personal and situational,
10 respectively. Athletes high in task orientation tend to feel successful when they achieve a
11 personal best, try hard, or master a new skill, while coaches, who create a mastery
12 motivational climate focus on each individual athlete's success, rewarding personal progress
13 (Ames, 1992). Athletes who are characterized by a task goal orientation and perceive a
14 mastery motivational climate in their team are more likely to engage in prosocial behavior
15 toward their teammates and opponents (e.g., Boardley & Kavussanu, 2009; Kavussanu,
16 Stanger, & Boardley, 2013).

17 The concepts of autonomous motivation and autonomy supportive climate (or coaching
18 style), described in self-determination theory (Deci & Ryan, 1985) are also conducive to
19 prosocial behavior. Autonomous motivation is evident when athletes choose to take part in
20 sport because they value or enjoy the activity and do it for its own sake; the sport context can
21 also be autonomy supportive, for example, when coaches provide athletes with choices. Both
22 autonomous motivation and autonomy supportive climate have been positively associated
23 with prosocial behavior (e.g., Hodge & Lonsdale, 2011; Hodge & Gucciardi, 2015; Sheehy &
24 Hodge, 2015).

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1 Theoretical integration has also taken place in recent years between self-determination
2 theory and the 2 x 2 model of achievement motivation (Elliot & McGregor, 2001).
3 Vansteenkiste and colleagues (Vansteenkiste, Mouratidis, Van Riet, & Lens, 2014) examined
4 game-to-game variation in achievement goal pursuit and prosocial behavior over six matches.
5 When controlling for match outcome, volleyball players with a dominant mastery approach
6 situational goal (i.e., aim to master skills and doing the best they can) reported more frequent
7 prosocial behavior towards teammates, compared to participants with a dominant
8 performance approach (i.e., aim to outperform others), performance avoidance (i.e., aim to
9 avoid performing worse than others), or mastery avoidance (i.e., aim to avoid not meeting
10 task requirements or one's potential) goals. Moreover, autonomous reasons (i.e., because I
11 liked to pursue this goal) underlying dominant mastery approach goal pursuit, were positively
12 associated with prosocial teammate behavior.

13 **Understanding Antisocial Behavior**

14 A great deal of research has been conducted aiming to identify the factors that facilitate
15 or inhibit antisocial behavior. Table 1 presents a comprehensive overview of the main
16 findings of this work. In this section, we will focus on those variables that have evidenced the
17 strongest and most consistent associations with antisocial behavior in sport. We will discuss
18 variables that are likely to facilitate antisocial behavior (i.e., positive predictors) followed by
19 variables that are likely to inhibit such behavior (i.e., negative predictors).

20 **Positive Predictors of Antisocial Behavior**

21 Perhaps the variable most reliably associated with antisocial behavior in the context of
22 sport is moral disengagement, which refers to a set of psychological mechanisms that people
23 use to justify transgressive behavior (Bandura, 1991). By re-construing unethical behavior,
24 distorting its consequences, minimizing or obscuring one's responsibility in the harm they
25 cause, and dehumanizing or blaming their victim, people are able to behave badly toward

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1 others, without experiencing affective self-sanctions (Bandura, 1991). Moral disengagement
2 has been positively related to antisocial behavior in numerous studies (e.g., Boardley &
3 Kavussanu, 2009, 2010; Hodge & Lonsdale, 2011; Hodge & Gucciardi, 2015), and this
4 relationship has been partially mediated by anticipated guilt (Stanger, Kavussanu, Boardley,
5 & Ring, 2013). Moreover, moral disengagement has been related to greater likelihood to use
6 banned performance-enhancing substances (Kavussanu, Hatzigeorgiadis, Elbe, & Ring, 2016;
7 Ring & Kavussanu, in press).

8 Antisocial behavior is intentional, motivated behavior, thus it is not surprising that
9 motivational variables play an important role on this behavior. Constructs stemming from
10 achievement goal theory (e.g., ego orientation, performance climate) and self-determination
11 theory (e.g., controlled motivation, controlling climate) have been linked to antisocial
12 behavior in sport. The athlete who is high in ego goal orientation tends to evaluate his
13 competence using other-referenced criteria and is preoccupied with winning (see Nicholls,
14 1989); this athlete is also more likely to act antisocially toward other athletes. Similarly, the
15 individual who is motivated to take part in sport for extrinsic reasons, such as obtaining
16 rewards and prizes, to show others how good he or she is, or because he or she feels
17 pressured to do so, thus having controlled motivation (see Deci & Ryan, 1985) is more likely
18 to act antisocially. Empirical research has confirmed these assertions revealing strong links
19 between antisocial behavior and ego orientation (Boardley & Kavussanu, 2010) as well as
20 controlled motivation (e.g., Hodge & Lonsdale, 2011; Hodge & Gucciardi, 2015).

21 The sport context can also be ego involving or controlling, depending on coaching
22 practices. Coaches create a performance (or ego-involving) motivational climate by focusing
23 on normative success, and a controlling climate by using coercive practices and pressuring
24 participants. These two types of coaching environment have been associated with antisocial
25 behavior, in several studies (e.g., Hodge & Gucciardi, 2015; Sage & Kavussanu, 2008). It

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1 may be that features of the social environment that are undesirable and contribute to a
2 negative sport experience also bring the worst in athletes by leading them to act in an
3 antisocial manner.

4 Researchers have also tried to understand the process through which motivational
5 variables influence antisocial behavior. Boardley and Kavussanu (2010) found that the
6 relationship between ego orientation and antisocial behavior toward teammates and
7 opponents was partially mediated by moral disengagement: Ego orientation positively
8 predicted moral disengagement, which in turn positively predicted antisocial behavior. Hodge
9 and Lonsdale (2011) reported a similar mediating effect of moral disengagement in the
10 relationship between controlled motivation and antisocial behavior. It seems that athletes who
11 are preoccupied with winning or take part in sport for controlled reasons, justify antisocial
12 behavior, which then enables them to engage in this behavior.

13 Although the popular assumption has been that moral disengagement leads to
14 antisocial behavior, it is equally plausible that moral disengagement is the outcome of such
15 behavior. That is, repeated engagement in antisocial conduct could increase the need to
16 justify such conduct leading to moral disengagement. Studies have shown that disabled
17 athletes are lower than able-bodied ones in both moral disengagement and antisocial behavior
18 (Kavussanu, Ring, & Kavanagh, 2015), and gender and sport type differences exist in both
19 variables (Boardley & Kavussanu, 2007); this suggests that moral disengagement may follow
20 as well as precede antisocial behavior. It is also likely that the two variables affect each other
21 bidirectionally. This would be in line with Bandura's (1991) model of triadic reciprocal
22 causation, whereby behavior, person and environment reciprocally influence one other.

23 The predominant team norms as well as how strongly one identifies with his or her
24 team could also affect antisocial behavior. In a recent study, Benson, Bruner and Eys (2017)
25 found that teammate antisocial behavior was positively related to athletes' antisocial behavior

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1 toward their teammates. Moreover, this relationship was stronger the more the athletes
2 identified with their team.

3 **Negative Predictors of Antisocial Behavior**

4 The variables discussed above could facilitate antisocial behavior. Another line of
5 research has focused on identifying factors that *inhibit* antisocial behavior. Moral identity and
6 empathy are the two variables that have received most research attention. Moral identity
7 refers to the cognitive schema that people hold about their moral character (Aquino et al.,
8 2009) and is a self-conception organized around a set of moral traits, such as being fair,
9 honest, caring, and hard-working. People who have a strong moral identity, consider being
10 moral a central part of who they are (Aquino & Reed, 2002). Empathy involves the sharing of
11 someone else's emotional experience; people who are high in empathy have the ability to
12 take another person's perspective and tend to experience concern for unfortunate others
13 (Davis, 1983). Both moral identity and empathy have been inversely associated with
14 antisocial sport behavior in cross-sectional research (e.g., Kavussanu & Boardley, 2009;
15 Kavussanu et al., 2013a; Sage et al., 2006).

16 The inhibiting role of moral identity and empathy on antisocial behavior has been
17 confirmed in experimental work, which has also shed light on the mechanisms through which
18 these effects may occur. In one experiment (Kavussanu et al., 2015), participants were
19 presented with a hypothetical situation, where they had the opportunity to act aggressively
20 (i.e., foul play). Compared to the control group, the moral identity group (whose moral
21 identity was activated via a priming procedure; Aquino & Reed, 2002) indicated lower
22 likelihood to aggress, judged such behavior morally wrong, and anticipated experiencing
23 more guilt, if they were to engage in the behavior. In another experiment (Stanger et al.,
24 2012), male athletes, who were assigned to a high-empathy group (i.e., empathy was
25 manipulated via perspective taking instructions) reported less likelihood to behave

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1 aggressively towards an opponent in a hypothetical situation and anticipated feeling more
2 guilt than those assigned to a low-empathy group, who received a manipulation aimed to
3 decrease their empathy. Anticipated guilt mediated the effects of both empathy and moral
4 identity on aggression. Thus, empathy and moral identity lead one to refrain from being
5 aggressive, to avoid experiencing guilt, which would typically result from such behavior.

6 It is worth noting that the effects of empathy on aggression are not universal and do not
7 occur similarly across gender; they are moderated (in men) by provocation. In an experiment
8 that manipulated provocation, Stanger et al. (2016) examined the effects of empathy on
9 aggression, operationalized as the electric shock intensity administered to a (fictitious)
10 opponent, when the participants “lost” a trial in a competitive reaction-time task. Provocation
11 was manipulated by administering low or high intensities of electric shock to the participant,
12 when he/she “lost” a trial. Empathy suppressed aggression, in both men and women, at low
13 provocation. However, at high provocation, this suppressive effect was evident only in
14 women, suggesting that the suppressing effect of empathy on aggression is moderated by
15 both gender and provocation.

16 **Consequences of Teammate Behavior**

17 Most studies examining moral behavior in sport focus on behavior directed at
18 opponents. However, teammates could also act prosocially by encouraging other teammates
19 after a mistake, congratulating them after good play, and giving them positive feedback, as
20 well as antisocially by verbally abusing and criticizing teammates (Kavussanu & Boardley,
21 2009). Beyond the potential consequences for one’s psychological well-being, teammate
22 prosocial and antisocial behaviors can also have achievement-related consequences.

23 Two studies have investigated the consequences of teammate behavior for the recipient.
24 Al-yaaribi, Kavussanu, and Ring (2016) asked football and basketball players, at the end of a
25 match, to report how often their teammates acted prosocially and antisocially toward *them*

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1 during the match they had just played. Prosocial teammate behavior was positively associated
2 with the recipient's enjoyment, effort, perceived performance, and commitment. In contrast,
3 antisocial teammate behavior corresponded to lower effort and perceived performance, and
4 more anger. In a second study, Al-yaaribi and Kavussanu (in revision) found that when team
5 sport players perceived that their teammates acted prosocially toward them over the course of
6 the season, they also reported greater positive affect, which in turn predicted task cohesion. In
7 contrast, perceptions of antisocial teammate behavior were associated with negative affect,
8 which in turn predicted burnout.

9 In another study, Vansteenkiste et al. (2014) found that volleyball players reported
10 more prosocial and less antisocial behavior towards their teammates, when they won
11 compared to when they lost a match. Thus, engaging in more prosocial and less antisocial
12 behaviors towards teammates may benefit performance in sport. However, we do not know
13 whether variation in teammate behavior led to better performance or whether better
14 performance led to variation in teammate behavior. It all likelihood, the relationship between
15 teammate behavior and performance in sport is reciprocal, with better performance leading to
16 more prosocial behavior, which in turn would lead to better performance.

17 **Bracketed Morality**

18 The term bracketed morality was coined by Bredemeier and Shields (1986) based on
19 their seminal work on moral reasoning, showing that athletes use less mature moral reasoning
20 to resolve moral dilemmas set in sport compared to daily life; thus, bracketed morality refers
21 to the adoption of less mature patterns of moral exchange when one enters sport. Kavussanu,
22 Boardley, Sagar, and Ring (2013) extended the concept of bracketed morality to prosocial
23 and antisocial behavior toward teammates and opponents. University athletes from a variety
24 of team sports reported more antisocial and less prosocial behavior toward their opponents in
25 sport than toward other students at university. However, participants also reported more

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1 prosocial behavior toward their teammates than toward their fellow students, suggesting that
2 team sport may facilitate positive social interaction among team members.

3 A large body of literature (e.g., Hewstone, Rubin, & Willis, 2002) indicates that
4 individuals tend to respond differently to others depending on whether these others are
5 members of their own group (the in-group) or members of a different group (the out-group).
6 The bracketed morality phenomenon may be, at least in part, a manifestation of this tendency.
7 Sport is a unique context, where one is typically part of a team (the in-group) competing
8 against others (the out-group). The differential findings for teammates and opponents
9 reported by Kavussanu et al (2013b) highlight the importance of making this distinction when
10 examining bracketed morality in sport.

11 **Conclusion**

12 In conclusion, our understanding of the factors that lead to (or deter) antisocial and
13 prosocial behaviors in sport has been considerably enhanced in recent years, with a range of
14 variables linked to these behaviors. In addition to the potential consequences moral behavior
15 can have on other athletes' welfare, some evidence indicates that teammate behaviors could
16 have important achievement-related consequences in sport. Although longitudinal (e.g.,
17 Vansteenkiste et al., 2014) and experimental (e.g., Kavussanu et al., 2015; Stanger et al.,
18 2012, 2016) designs have been used in some studies, more research is needed employing such
19 designs to provide stronger evidence for the direction of causality in the identified
20 relationships. This work could be used to inform the development and testing of interventions
21 aimed at promoting prosocial and reducing antisocial behavior in sport.

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Table 1. Overview of studies investigating correlates of antisocial behavior between 2010-2016.

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Variable and direction of relationship	Authors	Design and sample	Key findings
Empathy (-)	Kavussanu, Stanger, & Boardley (2013)	Cross sectional; University student athletes ($n = 129$)	Empathy negatively associated with antisocial teammate ($r = -.42$) and opponent behavior ($r = -.38$)
	Stanger, Kavussanu, & Ring (2012)	Experiment; Undergraduate sport science students assigned to a high ($n = 37$) or low ($n = 34$) empathy group.	High empathy group reported lower likelihood to aggress and higher anticipated guilt, than control group. Anticipated guilt mediated the effect of empathy on likelihood to aggress.
	Stanger, Kavussanu, McIntyre, & Ring (2016)	Experiment; University team sport players assigned to a high ($n = 40$) or a low ($n = 40$) empathy group. Empathy was manipulated during a competitive reaction time task under conditions of low and high provocation.	Men in high empathy group were less aggressive only at low provocation. Women in the high empathy group were less aggressive at both low and high provocation. Guilt mediated the effect of empathy on aggression only in men in low provocation. Provocation increased aggression and reduced guilt.
	Stanger, Kavussanu, & Ring (2017)	Cross-sectional: University team sport players ($n = 128$).	Both perspective taking ($r = -.34$) and empathic concern ($r = -.39$) components of empathy were negatively associated with antisocial opponent behavior. Anger mediated the relationship between perspective taking and antisocial behavior only in women.
Moral identity (-)	Kavussanu, Stanger, & Boardley (2013)	Cross sectional: University student athletes ($n = 129$)	Moral identity negatively associated with antisocial teammate ($r = -.32$) and opponent behaviors ($r = -.27$)
	Kavussanu, Stanger, & Ring (2015)	Three studies: Study 1 ($n = 866$) and Study 2 ($n = 246$) were cross sectional with team sport players. Study 3 was experimental with university sport science students assigned to a moral identity ($n = 42$) or control ($n = 44$) group.	In studies 1 and 2, moral identity was negatively associated with antisocial behavior ($r_s = -.33$ to $-.49$). In Study 3, the moral identity group were less likely to behave antisocially, higher anticipated guilt and judged antisocial behavior was more morally wrong. The effect of moral identity on antisocial behavior was mediated by anticipated guilt and moral judgment.

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Moral Disengagement (++)	Boardley & Kavussanu (2010)	Cross-sectional: Male soccer players ($n = 307$).	Moral disengagement positively associated with antisocial behavior teammates ($r = .37$) and opponents ($r = .69$).
	d'Arripe Longueville, Corrion, Scoffier, Roussel, & Chalbaev (2010)	Cross-sectional: Adolescents ($n = 804$).	Moral disengagement was positively associated with adolescent's likelihood of cheating ($r = .50$).
	Hodge & Lonsdale (2011)	Cross sectional: University athletes ($n = 292$)	Moral disengagement was positively associated with antisocial behavior toward teammates ($r = .51$) and opponents ($r = .74$).
	Hodge & Gucciardi (2015)	Cross-sectional: Team sport athletes ($n = 272$)	Moral disengagement was positively associated with antisocial behavior towards teammates ($r = .56$) and opponents ($r = .65$)
	Jones, Woodman, Barlow, & Roberts (in press)	Cross sectional: Team sport players ($n = 272$).	Moral disengagement was positively associated with antisocial behavior ($r = .56$)
	Kavussanu, Boardley, Sagar, & Ring (2013)	Cross sectional: University team sport athletes ($n = 372$)	Moral disengagement was positively associated with antisocial opponent behavior ($r = .56$)
	Kavussanu, Ring, & Kavanagh (2015)	Cross sectional: 34 disabled (with spinal cord injury) and 51 able-bodied team sport athletes.	Moral disengagement was a significant positive predictor of antisocial behavior.
	Kavussanu, Stanger, & Boardley (2013)	Cross sectional: University student athletes ($n = 89$)	Moral disengagement positively associated with antisocial behavior towards teammate ($r = .24$) and opponents ($r = .60$).
	Stanger, Kavussanu, Boardley, & Ring (2013)	Study 1: Cross-sectional ($n = 251$) on student team sport players. Study 2: Experiment with student team sport players split into either an experimental ($n = 38$) or control ($n = 38$) group. Experimental group received manipulation of attribution of blame.	Study 1: Moral disengagement positively associated with antisocial opponent behavior ($r = .48$), with this relationship partially mediated through anticipated guilt. Study 2: Attribution of blame group reported higher likelihood to behave antisocially and lower anticipated guilt. The effect of attribution of blame on likelihood to behave antisocially was partially mediated through anticipated guilt.
Stanger, Kavussanu, Willoughby & Ring (2012)	Cross sectional: University student team sport players ($n = 66$).	Moral disengagement was positively associated with antisocial behavior ($r = .53$).	

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	Traclet, Romand, Moret, & Kavussanu (2011)	Qualitative design using semi-structured interviews: Male soccer players aged 16-22 years ($n = 30$)	Content analyses to explore the use of moral disengagement to justify engagement in antisocial behavior revealed that all mechanisms apart from dehumanization and advantageous comparison were applied. Displacement of responsibility, moral justification and attribution of blame were most commonly applied.
	Traclet, Moret, Ohl, & Clémence (2015)	Cross sectional: A sub-sample of 94 soccer and ice hockey players completed measures of moral disengagement and committed aggressive behaviors.	Moral disengagement was positively associated only with high-level or severe aggressive acts ($r = .24$).
Autonomous motivation (NS)	Hodge & Lonsdale (2011)	Cross sectional: University athletes ($n = 292$)	Autonomous motivation was not significantly associated with antisocial behavior ($r = -.02$)
	Sheehy & Hodge (2015)	Cross-sectional: Masters team sport athletes aged between 30-60 years ($n = 147$)	Autonomous motivation was not associated with antisocial behavior ($r_s = .04$ and $.05$)
	Vansteenkiste, Mouratidis, Van Riet, & Lens (2014)	Longitudinal across six fixtures: Volleyball players ($n = 67$)	Autonomous motivation had a significant negative weak correlation with antisocial teammate behavior ($r = -.11$), and was not significantly associated with antisocial opponent behavior ($r = -.02$). These correlations were aggregated across all six fixtures for athletes who adopted a dominant mastery approach goal.
Controlled motivation (+)	Hodge & Lonsdale (2011)	Cross sectional: University athletes ($n = 292$)	Controlled motivation was positively associated with antisocial teammate ($r = .28$) and opponent behavior ($r = .23$)
	Sheehy & Hodge (2015)	Cross-sectional: Masters team sport athletes aged between 30-60 years ($n = 147$)	Controlled motivation was positively associated with antisocial behavior towards teammates ($r = .19$) and opponents ($r = .18$).

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	Vansteenkiste, Mouratidis, Van Riet, & Lens (2014)	Longitudinal across six fixtures: Volleyball players ($n = 67$)	Controlled motivation was not significantly associated with antisocial behavior towards teammates ($r = .09$) or opponents ($r = .03$). These correlations were aggregated across all six fixtures for athletes who adopted a dominant mastery approach goal.
Autonomy supportive climate (-)	Hodge & Lonsdale (2011)	Cross sectional: University athletes ($N = 292$)	Autonomy supportive coaching style was negatively associated with antisocial behavior towards teammates ($r = -.19$) and opponents ($r = -.25$)
	Hodge & Gucciardi (2015)	Cross-sectional: Team sport athletes ($n = 272$)	Coach created and teammate autonomy supportive climate were negatively associated with antisocial behavior towards teammates and opponents ($r_s = -.12$ to $-.19$).
Controlling climate (+)	Hodge & Gucciardi (2015)	Cross-sectional: Team sport athletes ($n = 272$)	Coach created and teammate controlling climates were positively associated with antisocial behavior towards teammates and opponents ($r_s = -.34$ to $-.43$)
Ego orientation (+)	Boardley & Kavussanu (2010)	Cross-sectional: Male soccer players ($n = 307$).	Ego orientation was positively associated with antisocial behavior towards teammates ($r = .17$) and opponents ($r = .39$). These relationships were both mediated through moral disengagement.
	Bortoli, Messina, Zorba, & Robazza (2012)	Cross sectional: Youth males soccer players aged 13-15 years ($n = 388$)	Ego orientation was positively associated with antisocial behavior ($r = .11$), though did not predict antisocial when controlling for other variables (i.e., motivational climates, moral atmosphere)
	Kavussanu, Boardley, Sagar & Ring (2013)	Cross sectional: University team sport athletes ($n = 372$)	Ego orientation was positively associated with antisocial opponent behavior ($r = .25$)
	Kavussanu, Stanger, & Boardley (2013)	Cross sectional: University student athletes ($n = 89$)	Ego orientation positively associated with antisocial opponent behavior ($r = .20$), but very weakly and not significantly linked with antisocial teammate behavior ($r = .04$).
Task orientation (-)	Boardley & Kavussanu (2010)	Cross-sectional: Male soccer players ($N = 307$).	Task orientation was not significantly associated with antisocial behavior ($r_s = -.03$ to $.01$)

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	Bortoli, Messina, Zorba, & Robazza (2012)	Cross sectional: Youth males soccer players aged 13-15 years ($n = 388$)	Task orientation was not significantly associated with antisocial behavior ($r = -.09$)
	Kavussanu, Stanger, & Boardley (2013)	Cross sectional with also a one week follow-up: University student athletes ($n = 89$)	Task orientation negatively associated with antisocial teammate and opponent behaviors ($r_s = -.20$ to $-.31$).
Performance climate (+)	Bortoli, Messina, Zorba, & Robazza (2012)	Cross sectional: Youth males soccer players aged 13-15 years ($n = 388$)	Performance climate was positively associated with antisocial behavior ($r = .11$), though did not predict antisocial behavior when controlling for other variables (i.e., mastery climate, moral atmosphere).
	Leo, Sánchez-Miguel, Sánchez-Oliva, Amado, & García-Calvo (2015)	Cross-sectional: Youth team sport players ($n = 1897$)	Coach and peer performance climates was positively associated with intentions and performance of antisocial behavior ($r_s = .14$ to $.38$) in sport. Both coach and peer mastery climate also predicted intentions and performance of antisocial behavior.
Mastery climate (-)	Bortoli, Messina, Zorba, & Robazza (2012)	Cross sectional: Youth males soccer players aged 13-15 years ($n = 388$)	Mastery climate negatively associated with antisocial behavior ($r = -.17$), though did not predict antisocial behavior when controlling for other variables (i.e., performance climate, moral atmosphere)
	Leo, Sánchez-Miguel, Sánchez-Oliva, Amado, & García-Calvo (2015)	Cross sectional: Youth males soccer players aged 13-15 years ($n = 388$) Cross-sectional: Youth team sport players ($n = 1897$)	Coach and peer mastery climate were negatively associated with intentions and performance of antisocial behavior ($r_s = -.11$ to $-.17$). Both coach and peer mastery climate also predicted intentions and performance of antisocial behavior.
Narcissism (+)	Jones, Woodman, Barlow, & Roberts (in press)	Cross sectional: Team sport players ($n = 272$).	Narcissism was positively associated with antisocial behavior ($r = .27$) with this relationship being mediated through moral disengagement.
Psychopathy (+)	Stanger, Kavussanu, Willoughby, & Ring (2012)	Cross sectional: University student team sport players ($n = 66$).	Psychopathy positively associated with antisocial behavior ($r = .38$).
Fear of failure (+)	Sagar, Boardley, & Kavussanu (2011)	Cross sectional: University team sport players ($n = 331$).	Fear of failure was positively associated with antisocial behavior in sport ($r = .28$).

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Social identity, task cohesion and social cohesion	Bruner, Boardley, & Côté (2014)	Longitudinal design whereby measures were completed at the beginning (time point 1), middle (time point 2) and end of season (time point 3): Youth team sport players ($n = 426$).	Task cohesion (time point 2) mediated a positive effect of in-group ties and in-group affect dimensions of social identity (at time point 1) on antisocial behavior towards teammates and opponents (time point 3). Social cohesion mediated a positive effect of in-group ties on antisocial behavior towards teammates and opponents.
Sportspersonship coach behaviors (multiple dimensions with differential relationships with antisocial behavior)	Bolter & Kipp (in press)	Cross-sectional: Youth team sport players aged 10-15 years ($n = 246$).	Perceptions that coaches set expectations ($r = -.19$), models ($r = -.22$) and reinforces ($r = -.19$) good sportspersonship negatively associated with antisocial behavior towards opponents. Perceptions that the coach prioritizes winning over sportspersonship positively associated with antisocial behavior ($r = .28$). Punishing poor sportspersonship and modelling good sportspersonship negatively predicted antisocial behavior towards opponents which was mediated through coach relatedness.
	Bolter & Weiss (2013)	Cross-sectional: Youth team sport players aged 13-18 years ($n = 418$).	Perceptions that coaches set expectations of good sportspersonship ($r_s = -.28$ to $-.30$), teaches ($r_s = -.20$ to $-.22$) and models ($r = -.30$) good sportspersonship was negatively associated with antisocial behavior. Perceptions that the coach prioritizes winning over good sportspersonship was positively associated antisocial behavior ($r_s = .28$ to $.33$). Coaches modelling of good sportspersonship negatively, and coaches prioritising winning over sportspersonship positively, predict antisocial behavior towards opponents.

Note: (+) denotes that significant positive relationships, whereas (–) denotes that significant negative relationships, are found with antisocial behavior across studies. (++) denotes that consistent moderate to strong positive relationships are found with antisocial behavior. (??) denotes that relationships with antisocial behavior are equivocal and not significant in some studies. (NS) denotes that relationships with antisocial behavior were not significant in all studies.