

Prosocial and antisocial behaviour in sport

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DOI:

[10.1080/1612197X.2019.1674681](https://doi.org/10.1080/1612197X.2019.1674681)

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Document Version

Peer reviewed version

Citation for published version (Harvard):

Kavussanu, M & Al-yaaribi, ASA 2019, 'Prosocial and antisocial behaviour in sport', *International Journal of Sport and Exercise Psychology*. <https://doi.org/10.1080/1612197X.2019.1674681>

[Link to publication on Research at Birmingham portal](#)

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This is an Accepted Manuscript of an article published by Taylor & Francis in *International Journal of Sport and Exercise Psychology*, on 25/10/2019, available online: <https://www.tandfonline.com/doi/full/10.1080/1612197X.2019.1674681>

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1 Running Head: PROSOCIAL AND ANTISOCIAL BEHAVIOR

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Prosocial and Antisocial Behavior in Sport

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11 IN PRESS

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15 Accepted:

5 September, 2019

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1 Abstract

2 Research examining prosocial and antisocial behavior in sport has proliferated in the
3 past ten years. Prosocial and antisocial behaviors are behaviors that can have positive or
4 negative consequences for the recipient's psychological or physical welfare. These acts are
5 common in sport and can be directed toward teammates and opponents. As well as potentially
6 affecting one's welfare, these behaviors can have a range of other consequences for the
7 recipient. In this article, we review studies that have investigated these behaviors using the
8 Prosocial and Antisocial Behavior in Sport Scale (Kavussanu & Boardley, 2009). We start by
9 presenting the theoretical and empirical foundations of this scale. Then, we discuss research
10 on predictors of prosocial and antisocial sport behavior. Next, we consider the concept of
11 bracketed morality as applied to prosocial and antisocial behavior. Finally, we review studies
12 on the consequences of prosocial and antisocial behavior for the recipient. We conclude with
13 some critical considerations and directions for future research.

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15 Keywords: moral behavior, moral disengagement, moral identity, team norms, bracketed
16 morality

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1 been conducted recently (e.g., Boardley, 2019; Kavussanu & Stanger, 2017), this is the first
2 article that focuses exclusively on research that has used the PABSS and provides a
3 comprehensive treatment of the topic of consequences of teammate behavior for the recipient.
4 In addition, we have included a summary of the findings of the main studies conducted in the
5 past ten years (see Appendix).

6 **Prosocial and Antisocial Behavior in Sport: The PABSS**

7 Few would question that the cornerstone of morality is action. Thoughts and emotions
8 are important in influencing behavior, but ultimately it is behavior that matters (Blasi, 1980;
9 Bredemeier & Shields, 1998; Kavussanu & Boardley, 2009). Moreover, behavior can have
10 positive or negative consequences for others, that is, morality can be proactive and inhibitive
11 (Bandura, 1999): Proactive morality is manifested in the power to behave humanely (or do
12 good things), whereas inhibitive morality is expressed in the power to refrain from behaving
13 inhumanely (or avoiding doing bad things). In sport research, the terms *prosocial* and
14 *antisocial* behavior have been used to refer to proactive and inhibitive morality, respectively
15 (Kavussanu, Seal, & Phillips, 2006; Sage, Kavussanu, & Duda, 2006), with low levels of
16 antisocial behavior reflecting inhibitive morality. Prosocial behavior has been defined as
17 voluntary behavior intended to help or benefit another individual (Eisenberg & Fabes, 1998),
18 and examples in sport are helping a player off the floor and congratulating a teammate.
19 Antisocial behavior is behavior intended to harm or disadvantage another individual
20 (Kavussanu et al., 2006; Sage et al., 2006), for instance, trying to injure an opponent and
21 faking an injury.

22 Prior to the development of the PABSS, attempts were made to measure prosocial and
23 antisocial behavior in football players (e.g., Kavussanu, 2006; Sage & Kavussanu, 2007).
24 Observational and self-report studies (e.g., Kavussanu et al., 2006; Kavussanu, Stamp, Slade,
25 & Ring, 2009; Sage & Kavussanu, 2007) suggested that prosocial and antisocial behaviors

1 can be directed not only toward opponents but also toward teammates. For example,
2 Kavussanu et al. (2009) found that a large percentage of prosocial behaviors observed during
3 football matches, such as congratulating another player were directed toward teammates. This
4 finding makes sense, if we consider that football players compete in teams against other
5 teams, and congratulating one's teammates on good performance, may be a natural
6 expression of one's satisfaction about collective achievement. This observational research
7 also revealed that most of the behaviors taking place during football matches were antisocial
8 behaviors toward opponents.

9 Building upon this work, Kavussanu and Boardley (2009) identified several different
10 prosocial and antisocial behaviors toward opponents and teammates. They developed the
11 PABSS, which consists of four subscales measuring these behaviors (see Table 1). Based on
12 a large sample of team sport athletes from 103 teams, their research showed that the specific
13 behaviors directed toward opponents and teammates vary depending on the recipient.
14 Specifically, the prosocial opponent behaviors are helping behaviors (e.g., helping an
15 opponent off the floor, helping an injured opponent), possibly with an altruistic motive. In
16 contrast, the prosocial teammate behaviors (e.g., congratulating and encouraging a teammate)
17 are behaviors that could have achievement-related consequences, thus there may be a
18 personal benefit in engaging in these behaviors. For example, by encouraging a teammate
19 after a mistake, one could help the teammate perform better, which would in turn benefit
20 one's team.

21 A range of antisocial behaviors toward teammates and opponents were also identified
22 (Kavussanu & Boardley, 2009). As can be seen in Table 1, these behaviors are distinct from
23 each other. All teammate behaviors are verbal behaviors (i.e., arguing with a teammate),
24 reflecting the nature of team sport, whereby in the pursuit of team goals, frustration is
25 commonly expressed and disagreements between teammates take place. In contrast, the

1 opponent behaviors are verbal and physical. Moreover, some of the opponent behaviors (e.g.,
2 intentionally distracting an opponent) can be considered gamesmanship (i.e., behavior that is
3 within the rules of sport but violates its spirit), some (e.g., trying to injure an opponent) are
4 aggressive behaviors, and others (e.g., intentionally breaking the rules of the game) represent
5 unfair play. Thus, the antisocial opponent behaviors measured by the PABSS are more diverse
6 than their respective teammate acts.

7 Numerous studies have used the PABSS in the last ten years. A recent meta-analysis of
8 some of this work examined the relationship between the two sets of behaviors
9 (Graupensperger, Jensen, & Evans, 2018). Across 34 studies, prosocial behaviors toward
10 teammates and opponents were moderately related to each other ($\rho = .42$, 95% CI [.40-.45]),
11 whereas across 39 studies, the two antisocial behaviors had a strong relationship with each
12 other ($\rho = .70$, 95% CI [.68, .71]). These findings suggest that the two antisocial behaviors
13 are more similar to each other, whereas the two prosocial behaviors are more distinct from
14 each other. In other research (e.g., Kavussanu & Boardley, 2009), fairly weak associations
15 between prosocial and antisocial behaviors have emerged, indicating that these behaviors are
16 relatively independent from each other, and one can act in both a prosocial and an antisocial
17 manner toward both teammates and opponents. Therefore, both prosocial and antisocial
18 behaviors need to be examined in order to gain a better appreciation of the social-moral
19 conduct that takes place in sport.

20 **Understanding Prosocial Sport Behavior**

21 In this section, we review research that has investigated predictors of prosocial sport
22 behavior. We focus on those variables that have received most research attention.
23 Specifically, we discuss research that has examined task orientation, mastery motivational
24 climate, autonomous motivation, autonomy supportive coaching style, sportsmanship

1 coaching behavior, and descriptive norms, as they relate to prosocial behavior toward
2 teammates and opponents.

3 The degree to which one acts prosocially toward other athletes in sport, largely depends
4 on their achievement goal orientation. Two major achievement goals operate in sport and
5 reflect the criteria one tends to use to define success and evaluate competence (Nicholls,
6 1989). Individuals high in task orientation tend to feel successful when they try hard and see
7 improvement to result from their hard work. In contrast, those high in ego orientation tend to
8 define success in normative terms and feel competent when they show superiority over
9 others. Task orientation has been positively associated with prosocial behavior toward both
10 teammates and opponents (Kavussanu, Stanger, Boardley, 2013a; Kavussanu & Boardley,
11 2009) with a stronger link evidenced with prosocial teammate behavior.

12 Similar stronger links with teammate rather than opponent prosocial behavior, have
13 been revealed for the situational manifestation of achievement goals: the motivational climate
14 of the team. This involves the criteria of success prevalent in the achievement context, and
15 communicated to athletes by significant others such as coaches (Ames, 1992). These
16 individuals determine the evaluation procedures and distribution of rewards, and, via their
17 behavior, convey to athletes what is valued in that context (Ames, 1992). For example,
18 coaches can create a mastery motivational climate – where personal progress is valued - by
19 rewarding individual effort and improvement and creating opportunities for everyone to
20 succeed, or a performance climate, where normative success is valued. Mastery motivational
21 climate positively predicted prosocial behavior toward teammates, but not opponents, in field
22 hockey and netball players (e.g., Boardley & Kavussanu, 2009). In young athletes, mastery
23 climate predicted prosocial teammate behavior both directly and indirectly via perspective
24 taking and social support (Stanger, Backhouse, Jennings, & McKenna, 2018). Indirect – but
25 not direct - relationships were also evident between mastery climate and prosocial opponent

1 behavior. In both of these studies, the links between mastery climate and prosocial behavior
2 were stronger when behavior was directed toward teammates rather than toward opponents.

3 Autonomous motivation and autonomy-supportive climate or coaching style are also
4 conducive to prosocial behavior. Autonomous motivation is evident when athletes choose to
5 take part in sport because they value or enjoy the activity; the sport context is autonomy
6 supportive when coaches provide athletes with choices, acknowledge their feelings, and offer
7 opportunities to demonstrate initiative and independent problem solving (Deci & Ryan, 1985;
8 Hodge & Lonsdale, 2011). Perceptions of an autonomy supportive coaching style positively
9 predicted autonomous motivation, which in turn positively predicted prosocial behavior
10 toward teammates - but not opponents - in young athletes (Hodge & Lonsdale, 2011), while
11 autonomous motivation was strongly and positively associated with prosocial behavior
12 toward both teammates and opponents in Masters athletes (Sheehy & Hodge, 2015). In other
13 research, coach autonomy support positively predicted prosocial behavior toward teammates
14 indirectly via the satisfaction of relatedness and competence needs (Hodge & Gucciardi,
15 2015). The satisfaction of these psychological needs is the pathway through which autonomy
16 support exerts its influence on desirable outcomes (Deci & Ryan, 1985).

17 In an important intervention study, Cheon, Reeve and Ntoumanis (2018) implemented
18 an Autonomy-Supportive Intervention Program (ASIP) to help physical education (PE)
19 teachers become more autonomy-supportive and less controlling toward their students and
20 examined whether changes in teaching styles influence students' behaviors during PE.
21 Teachers who took part in the program increased their autonomy support, and their students
22 experienced greater need satisfaction and engaged in more prosocial behaviors. Increases in
23 prosocial behavior over time were attributed mostly to gains in need satisfaction.

24 A construct conceptually similar to prosocial and antisocial behavior is good and poor
25 “sportpersonship” also known as sportsmanship² (Bolter & Weiss, 2012). Bolter and Weiss

1 (2013) identified six behaviors through which coaches can influence athletes'
2 sportpersonship: Setting expectations, reinforcing, teaching, and modeling good
3 sportsmanship, punishing poor sportsmanship, and prioritizing winning over good
4 sportsmanship. In a study of middle-school boys and girls (Bolter & Kipp, 2018), setting
5 expectations, reinforcing, teaching, and modeling good sportsmanship in team sport were
6 positively associated with prosocial behavior toward teammates and opponents, with stronger
7 relationships evident with teammate behaviors. In addition, modeling good sportpersonship
8 positively predicted relatedness with teammates, which in turn positively predicted prosocial
9 behavior toward both teammates and opponents. However, only the indirect relationship of
10 modeling good sportsmanship with prosocial teammate behavior via teammate relatedness
11 was significant (Bolter & Kipp, 2018).

12 More recent research has identified variables that are linked *only* to teammate behavior,
13 for example descriptive norms and social identity (e.g., Bruner et al., 2018). Descriptive
14 norms refer to the degree to which one's teammates act prosocially (or antisocially) toward
15 other members of their team. In a study of competitive youth ice hockey players, perceived
16 prosocial teammate behavior during the season positively predicted self-reported prosocial
17 behavior toward one's teammates (Bruner et al., 2018). In another study, Benson and Bruner
18 (2018) asked adolescent hockey players to complete daily diaries of prosocial and antisocial
19 behavior from their teammates as well as their own behavior over a 10-day period. Athletes
20 were asked if they had personally experienced any of the behaviors from their teammates on
21 that day. The way athletes interacted with their teammates varied across time, and this
22 variation was linked to their daily experiences of teammate behavior; that is, daily
23 experiences of prosocial behavior from one's teammates positively predicted daily self-
24 reported prosocial behavior (Benson & Bruner, 2018). An interesting interaction effect also
25 emerged, with this positive relationship being stronger when daily experiences of antisocial

1 teammate behavior were less frequent. However, the relationship was positive and significant
2 even at higher levels of teammate antisocial behavior. Thus, experiencing prosocial behavior
3 from one's teammates is likely to increase one's own prosocial behavior, even if one
4 experiences antisocial behavior from teammates. However, the largest benefits would be
5 conferred when antisocial teammate behavior is also less frequent (e.g., Benson & Bruner,
6 2018).

7 Another predictor of prosocial behavior is social identity, which refers to "that part of
8 an individual's self-concept, which derives from his/her knowledge of his/her membership of
9 a social group (or groups), together with the value and emotional significance attached to that
10 membership" (Tajfel, 1981, p. 255). In sport studies (e.g., Benson & Bruner, 2018), social
11 identity has been measured by asking athletes to indicate how they feel about being part of
12 their team, using the Social Identity in Sport Questionnaire (Bruner & Benson, 2017), which
13 captures three aspects of this construct: cognitive centrality (e.g., I often think about the fact
14 that I am a team member), in-group ties (e.g., I feel strong ties to other members of this
15 team), and in-group affect (e.g., I am glad to be a member of this team). In their study of high
16 school sport teams, Bruner, Boardley and Cote (2014) found that ingroup ties and ingroup
17 affect positively predicted prosocial teammate behavior, but there was no relationship with
18 prosocial opponent behavior. Thus, if someone feels strong ties and is glad to be a member of
19 the team, they are more likely to act prosocially toward their teammates. Ingroup ties and
20 cognitive centrality positively predicted self-reported prosocial teammate behavior, and this
21 relationship was stronger when perceived norms for prosocial behavior were high in ice
22 hockey players (Bruner et al, 2018); however, ingroup affect positively predicted prosocial
23 behavior *only* at average and high levels of perceived norms.

24 In sum, much of the work conducted to date shows that prosocial behaviors toward
25 teammates and opponents are distinct. Task orientation, mastery climate, autonomous

1 motivation, autonomy supportive coaching style, and social identity, evidence stronger
2 relationships with prosocial behavior toward teammates than opponents. In contrast,
3 sportsmanship coaching behaviors are linked similarly to the teammate and opponent
4 prosocial acts. Finally, the degree to which one acts prosocially toward one's teammates may
5 influence the prosocial behavior of these teammates.

6 **Understanding Antisocial Behavior in Sport**

7 A great deal of research has aimed to identify the factors that facilitate or inhibit
8 antisocial behavior in sport (see Kavussanu & Stanger, 2017). In this section, we focus on
9 those variables that have evidenced the strongest and most consistent associations with this
10 behavior. Variables that are likely to facilitate antisocial behavior (i.e., positive predictors)
11 are discussed first, followed by variables that are likely to inhibit such behavior (i.e., negative
12 predictors).

13 **Positive Predictors of Antisocial Behavior**

14 Perhaps the construct most consistently associated with antisocial behavior in the
15 context of sport is moral disengagement; this refers to a set of psychological mechanisms that
16 people use to disengage transgressive behavior from the self-sanctions that typically keep
17 behavior in line with one's moral standards (Bandura, 1991, 1999). These mechanisms
18 operate by cognitively restructuring transgressive behavior, minimizing or obscuring one's
19 role in the harm one causes, disregarding or distorting the detrimental consequences of one's
20 behavior, and dehumanizing or blaming the perpetrator's victim (Bandura, 1991, 1999). For
21 example, antisocial behavior could be justified as done for a higher social or moral purpose
22 (moral justification); athletes may disguise antisocial behavior by referring to it with a
23 different name (euphemistic labelling); they could compare antisocial behavior with more
24 harmful acts, making bad behavior appear relatively benign (advantageous comparison);
25 displace responsibility for action on the coach, manager, or support staff (displacement of

1 responsibility); downplay the harm they cause (distortion of consequences); and attribute
2 blame for their behavior onto their victim (attribution of blame). Numerous studies have
3 consistently revealed strong positive relationships between moral disengagement and
4 antisocial behavior, particularly toward opponents (e.g., Boardley & Kavussanu, 2009, 2010;
5 Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011; Stanger et al., 2018). As discussed
6 below, some of these studies have also found support that moral disengagement mediates the
7 effects of other variables on antisocial behavior (e.g., Boardley & Kavussanu, 2009, 2010;
8 Hodge & Gucciardi, 2015; Stanger et al., 2018).

9 The way one approaches sport has implications for one's behavior. One of the variables
10 that shape this approach is goal orientation (Nicholls, 1989). Athletes high in ego goal
11 orientation need to win in order to feel competent, and this may facilitate antisocial behavior.
12 Boardley and Kavussanu (2010) found that, in male football players, ego orientation
13 positively predicted antisocial behavior toward opponents and teammates indirectly via moral
14 disengagement, and this relationship was stronger for opponent behavior; ego orientation had
15 an additional direct effect on antisocial opponent behavior. In another study (Kavussanu et
16 al., 2013) ego orientation was positively related to antisocial opponent but not teammate
17 behavior. The stronger link of ego orientation with opponent compared to teammate
18 antisocial behavior makes sense, if one considers that athletes high in ego orientation
19 typically strive to outperform their opponents rather than their teammates when taking part in
20 sport, and antisocial behavior could be the outcome of these efforts.

21 The criteria of success reflected in ego goal orientation are also evident in the
22 situational goal structure, namely the performance motivational climate of the team (Ames,
23 1992). Performance motivational climate is created by significant others such as coaches,
24 who convey to the athletes that normative ability and doing better than others are valued
25 within the team. In this type of climate, coaches reward only the top athletes and give

1 normative feedback, thus communicating to their athletes that they value winning over
2 personal progress (Ames, 1992). Performance motivational climate was a positive predictor
3 of antisocial behavior toward teammates but not opponents in adult field hockey and netball
4 players (Boardley & Kavussanu, 2009), while in young team-sport athletes, this climate
5 predicted antisocial behavior toward teammates both directly and indirectly via moral
6 disengagement (Stanger et al., 2018).

7 A more explicit focus on winning has been the feature of a coaching behavior examined
8 in relation to antisocial behavior, in a recent investigation (Bolter & Kipp, 2018).
9 Specifically, prioritizing winning over good sportsmanship was the coach behavior that
10 evidenced the strongest link with antisocial behavior toward teammates and opponents. It
11 may be that features of the social environment that are undesirable and contribute to a
12 negative sport experience also bring the worst in athletes by leading them to act in an
13 antisocial manner.

14 Controlled motivation (Deci & Ryan, 1985) has also been linked to antisocial behavior
15 (Hodge & Lonsdale, 2011). Controlled motivation is evident when athletes take part in sport
16 for extrinsic reasons, for instance, to obtain rewards and prizes, to show others how good they
17 are, or to avoid feelings of guilt and shame. Athletes with controlled motivation focus on the
18 outcome of the game or race, and they are more likely to engage in antisocial behavior to
19 achieve their extrinsic goals. Hodge and Lonsdale (2011) found that controlled motivation
20 predicted antisocial behavior toward teammates and opponents indirectly via moral
21 disengagement, with stronger links with behavior toward opponents than teammates.

22 The social environment can also be controlling, and this is manifested in the behavior of
23 the coach. In a controlling climate, coaches use coercive practices and pressure participants,
24 for example, by using controlling language and extrinsic rewards for performance. They
25 behave in a coercive, pressuring, and authoritarian way, and employ strategies such as

1 manipulation, obedience, guilt induction, controlling competence feedback, and conditional
2 regard to impose a specific and preconceived way of thinking and behaving on their athletes
3 (Bartholomew, Ntoumanis, & Thøgersen-Ntoumani, 2011). In a study of university athletes,
4 perceived controlling coach behavior positively predicted moral disengagement, which in
5 turn positively predicted antisocial behavior toward opponents and teammates; the link was
6 stronger with opponent behavior (Hodge & Gucciardi, 2015).

7 Finally, the behavior of one's teammates can influence athletes' behavior toward their
8 teammates. Daily experienced antisocial behavior from one's teammates predicted self-
9 reported antisocial behavior toward teammates (Benson & Bruner, 2018), in adolescent
10 hockey players. The latter was most frequent when participants experienced high antisocial
11 *combined* with low prosocial behavior from their teammates. In other work, athletes who
12 perceived that their teammates engaged in more antisocial behaviors toward one another
13 during practices, also reported more antisocial behavior toward their teammates (Bruner et
14 al., 2018; Benson, Bruner, & Eys, 2017).

15 In sum, ego orientation, controlled motivation, performance climate, controlling
16 coaching style, and coaching behavior that prioritizes winning over sportpersonship are
17 likely to lead to antisocial behavior within the sport context. Interestingly, some constructs
18 have stronger links with opponent than with teammate behaviors, reinforcing the point that
19 the two antisocial behaviors are distinct from each other. Moreover, perceiving one's
20 teammates act in an antisocial manner is a strong predictor of self-reported antisocial
21 behavior toward teammates.

22 **Negative Predictors of Antisocial Behavior**

23 Another line of research has focused on identifying factors that inhibit antisocial
24 behavior (see Kavussanu & Stanger, 2017). Moral identity and empathy are the two variables
25 that have shown the strongest links to antisocial behavior and are discussed in this section.

1 Some of the variables discussed in previous sections (e.g., mastery climate, autonomy
2 motivation, autonomy supportive climate) have also been related to antisocial behavior, but
3 the links are generally weak. This research is reviewed in this section.

4 Moral identity refers to the cognitive schema that people hold about their moral
5 character and is a self-conception organized around a set of moral traits (Aquino & Reed,
6 2002); people who have a strong moral identity, consider being moral a central part of who
7 they are. This construct originated from the work of Blasi (1984), who proposed that a
8 common set of moral traits are likely to be central to most people's moral self-definitions and
9 that being a moral person may occupy different levels of importance in each person's self-
10 concept. Aquino and Reed (2002) identified nine traits (i.e., caring, compassionate, fair,
11 friendly, generous, helpful, hardworking, honest, and kind) as being characteristic of a moral
12 person and found variation in the degree to which these traits were central to one's self-
13 concept. The extent to which the moral self-schema is experienced as being central to one's
14 self-definition has been referred to as the internalization dimension of moral identity (Aquino
15 & Reed, 2002) and has been the main focus of empirical research. Moral identity has been
16 inversely associated with antisocial sport behavior toward both teammates and opponents in
17 cross-sectional research (e.g., Kavussanu et al., 2013a; Kavussanu, Stanger, & Ring, 2015;
18 Shields, Funk, & Bredermeier, 2017). Some evidence also suggests that the inhibiting effect
19 of moral identity on antisocial opponent behavior may occur via increased anticipated guilt
20 (Kavussanu et al., 2015; Kavussanu, 2019).

21 Empathy involves the sharing of someone else's emotional experience; people who are
22 high in empathy are able to take another person's perspective and tend to experience concern
23 for unfortunate others (Davis, 1983). Empathy is an other-oriented response, which is
24 congruent with another person's situation or perceived welfare and has been inversely
25 associated with antisocial behavior toward both opponents and teammates in cross-sectional

1 research (e.g., Kavussanu et al., 2013a; Kavussanu & Boardley, 2009; Stanger, Kavussanu, &
2 Ring, 2017). In one study, its effects on antisocial opponent behavior were negatively
3 mediated by moral disengagement (Stanger et al., 2018). Thus, empathy is likely to lower
4 moral disengagement which in turn should decrease antisocial behavior toward opponents.

5 Weaker relationships have been revealed between antisocial behavior and some of the
6 variables discussed in the previous section. Specifically, an autonomy-supportive coaching
7 climate was inversely associated with antisocial behavior toward both teammates and
8 opponents (Hodge & Lonsdale, 2011), while an autonomy-supportive teammate environment
9 negatively predicted antisocial teammate (but not opponent) behavior (Hodge & Gucciardi,
10 2015). Finally, in the Autonomy-Supportive Intervention Program implemented with PE
11 teachers (Cheon et al., 2018), students of teachers who took part in the program reported a
12 decrease in their antisocial behavior over time; these decreases were attributed to declines in
13 psychological need frustration.

14 In sum, athletes who have high empathy and feel that being a moral person is a central
15 part of their identity are less likely to behave in an antisocial manner toward both their
16 opponents and their teammates. Therefore, devising activities that would strengthen empathy
17 and moral identity should reduce the frequency of antisocial sport behavior. This behavior
18 could also be reduced by strengthening the autonomy supportive aspects of the coaching
19 environment.

20 **Bracketed Morality**

21 An interesting issue to which we now turn is the degree to which moral behavior is
22 “bracketed” within the context of sport. The term bracketed morality was coined by
23 Bredemeier and Shields (1986) based on their seminal work on moral reasoning (see Shields
24 & Bredemeier, 1995). These researchers found that high school and college basketball
25 players displayed less mature moral reasoning, when they responded to moral dilemmas set in

1 sport compared to those set in daily life (Bredemeier & Shields, 1986). They argued that
2 sport is a world within a world: When one enters the realm of sport, the responsibility to act
3 in a moral manner is temporarily suspended, and egocentrism becomes a valued principle.
4 They used the term bracketed morality to refer to the adoption of less mature patterns of
5 moral exchange observed in sport compared to daily life.

6 Kavussanu, Boardley, Sagar and Ring (2013b) extended this work from moral
7 reasoning to moral behavior. They asked university student athletes to indicate how often
8 they engaged in prosocial and antisocial behaviors toward their teammates and opponents in
9 sport and toward their fellow students at university. The behaviors assessed by the PABSS
10 were used to refer to behavior toward other students; these behaviors varied not only as a
11 function of the context (sport vs university), but also as a function of the recipient (teammate
12 vs opponent), in line with findings in sport (Kavussanu & Boardley, 2009). Results showed
13 that participants reported more frequent prosocial behavior toward their teammates in sport
14 than toward other students at university (e.g., encouraging more often a teammate than a
15 student) and less prosocial acts toward their opponents in sport than toward other students
16 (e.g., helping less often an opponent off the floor than a student in need). Antisocial behavior
17 was more frequent toward opponents than other students (e.g., more often intimidating an
18 opponent than a student), but there was no difference between contexts in antisocial
19 teammate behavior (e.g., arguing with a teammate or a student).

20 These findings extend the phenomenon of bracketed morality from moral reasoning to
21 moral behavior. The findings also point to the unifying role team sport can have on athletes.
22 That participants reported more prosocial behavior toward their teammates than toward other
23 students, suggests that team sport can have a positive influence on intra-team behavior.
24 Athletes are part of a team and strive for the same goal, which might lead them to act
25 prosocially toward each other, more so than they would do toward other students at

1 university, where there are no common goals. These findings also highlight the important role
2 groups play on moral behavior. A large body of literature (e.g., Hewstone, Rubin, & Willis,
3 2002) indicates that individuals tend to respond differently to others depending on whether
4 these others are members of their own group (the in-group) or members of a different group
5 (the out-group). The bracketed morality phenomenon may be, at least in part, a manifestation
6 of this tendency. Sport is a unique context, where one is typically part of a team (the in-
7 group) competing against others (the out-group). The differential findings for teammates and
8 opponents reported by Kavussanu et al. (2013b) underline the importance of making this
9 distinction, when examining bracketed morality in sport.

10 Although context differences were revealed in prosocial behavior, the largest
11 discrepancy between contexts was observed for antisocial opponent behavior (Kavussanu et
12 al., 2013b). This discrepancy was further explored by examining moral disengagement and
13 ego orientation as potential mediators, two constructs that have been consistently and
14 positively associated with antisocial behavior toward opponents (see Kavussanu, 2012). Even
15 though opportunities for moral disengagement also exist in one's interactions with others,
16 certain conditions in sport may facilitate its occurrence. For example, in the pursuit of
17 victory, coaches may ask players to cheat or injure their opponents, and players may see their
18 teammates doing this. It may be easier to morally disengage in sport because responsibility
19 for one's inappropriate actions can be displaced onto others. Similarly, ego orientation tends
20 to be higher in competition, which is an integral part of sport, compared to training.
21 Kavussanu et al. (2013b) found that participants reported higher moral disengagement and
22 ego orientation in sport than university. Mediation analysis revealed that these context
23 differences, in part, explained context differences in athletes' antisocial behavior toward their
24 opponents (Kavussanu et al., 2013b).

1 during a match, reported experiencing more enjoyment, applied more effort, perceived better
2 performance, and were more committed to continue playing for their team.

3 These findings were replicated in a second study of adolescent male football players
4 (Al-Yaaribi & Kavussanu, 2018), who were asked about their experiences during training and
5 competition over the course of the season. Two interesting interactions also emerged in this
6 second study: Prosocial teammate behavior had a stronger relationship with both enjoyment
7 and perceived performance, when coaches were perceived to create a mastery motivational
8 climate in their team. That is, the stronger the mastery climate, the stronger the effect of
9 prosocial teammate behavior on enjoyment and perceived performance. Thus, mastery
10 climate and prosocial teammate behavior may be operating in a synergistic fashion to
11 promote enjoyment and performance.

12 The effects of prosocial teammate behavior on emotion and sport performance have
13 also been examined in a recent experiment, that simulated competitive sport conditions (Al-
14 Yaaribi, Kavussanu, & Ring, 2018). Participants were randomly assigned to a prosocial,
15 antisocial, or control group, were paired with a “teammate” (i.e., the confederate), and took
16 part in a competitive task, where the goal was to make as many baskets as possible in two
17 minutes. The participant was always the shooter, while the confederate was always the
18 rebounder, whose task was to pass the ball to the “teammate” as quickly as possible. After a
19 baseline was established, participants took part in the experimental phase, in which their
20 teammate (i.e., the confederate) verbalized prosocial (e.g., you can do it, great performance),
21 antisocial (e.g., you are letting me down, terrible performance), or neutral (e.g., the floor is
22 hard, the basket is black) statements. The prosocial group reported greater happiness and
23 performed better (i.e., made more baskets) than the control group.

24 Prosocial teammate behavior may also influence team members’ task and social
25 cohesion and social identity. Task cohesion refers to the degree to which team members are

1 united in working together toward achieving team goals, whereas social cohesion reflects the
2 degree to which team members like each other, get along, and consider one another to be
3 friends (Eys, Loughhead, Bray, & Carron, 2009). In team sport athletes, prosocial teammate
4 behavior positively predicted both task and social cohesion (Al-Yaaribi & Kavussanu, 2017;
5 Pizzi & Stanger, 2019); the relationship with task cohesion was partially mediated by positive
6 affect (Al-Yaaribi & Kavussanu, 2017). In other research, participants reported that their
7 social identity was strengthened when they perceived their teammates engaging in prosocial
8 behaviors (Bruner et al., 2017), while adolescent hockey players' social identity was stronger
9 on days in which they experienced more prosocial behaviors from their teammates (Benson
10 & Bruner, 2018).

11 Prosocial teammate behavior could also prevent burnout, defined as a psychological,
12 emotional, and physical withdrawal from a previously enjoyable activity in response to
13 chronic stress (Smith, 1986). This behavior may enhance the recipient's ability to deal with
14 stress and can play a role in both the development and the prevention of burnout. Prosocial
15 teammate behavior negatively predicted burnout both directly and indirectly via (greater)
16 positive affect, in team sport athletes (Al-Yaaribi & Kavussanu, 2017). Those players who
17 perceived that their teammates displayed prosocial behavior toward them - during training
18 sessions and in matches throughout the season - experienced more positive affect; in turn, this
19 positive affective experience may have decreased their vulnerability to burnout.

20 In sum, prosocial teammate behavior can have important achievement-related
21 consequences. Several studies show that this behavior positively predicts enjoyment, effort,
22 perceived and actual performance, positive affect, social identity, and task and social
23 cohesion and negatively predicts negative affect and burnout. Prosocial behavior within the
24 team could contribute to creating a more positive sport experience, with subsequent long-
25 term consequences for one's commitment to continue participation in sport.

1 **Antisocial Teammate Behavior**

2 Verbally abusing, swearing, arguing, criticizing, and expressing frustration at one's
3 poor play are antisocial teammate behaviors with potentially negative consequences for the
4 recipient. These behaviors should lead the recipient to feel angry, and in general experience
5 negative affect, as they can offend the recipient and make the overall sport experience
6 unpleasant. Indeed, antisocial teammate behavior has been positively related to anger and
7 negative affect and inversely associated with both effort and perceived performance in cross-
8 sectional research (e.g., Al-Yaaribi et al., 2016; Al-Yaaribi & Kavussanu, 2017, 2018). The
9 positive link between antisocial teammate behavior and anger has been particularly strong.

10 The relationship between antisocial teammate behavior and performance is less clear,
11 with some inconsistent findings: This behavior was a negative predictor of perceived
12 performance in both adolescent and adult football players (Al-Yaaribi et al., 2016; Al-Yaaribi
13 & Kavussanu, 2018) but did not predict performance in adult basketball players (Al-Yaaribi
14 et al., 2016). This behavior was also a stronger negative predictor of perceived performance
15 in adolescent male footballers, when coaches were perceived to create a performance
16 motivational climate in the team (Al-Yaaribi & Kavussanu, 2018). However, in experimental
17 research, the antisocial behavior group (i.e., the recipients of antisocial behavior from their
18 teammate) performed better than the control group in a two-minute basketball free-throw
19 shooting competition (Al-Yaaribi et al, 2018), suggesting that this type of behavior may be
20 beneficial for performance under certain circumstances. It may be that antisocial teammate
21 behavior confers some temporary benefits to performance; however, it is unlikely that these
22 benefits would continue in the long term. Research is needed to shed light on this issue.

23 Antisocial teammate behavior can also influence task cohesion and burnout. Repeatedly
24 expressing frustration at a teammate's (poor) performance could lead the recipient to think
25 that he or she is unable to contribute to team goals, causing them to experience a reduced

1 sense of team unity. Similarly, the negative experience of antisocial teammate behavior could
2 diminish athletes' ability to cope with the demands of their sport (Kavussanu, 2012;
3 Kavussanu & Boardley, 2009). Antisocial teammate behavior negatively predicted task and
4 social cohesion, as well as collective efficacy (Pizzi & Stanger, 2019) and positively
5 predicted burnout (Al-Yaaribi & Kavussanu, 2017) in team-sport athletes. The relationships
6 with cohesion and burnout were both direct and indirect via negative affect, underlining the
7 importance of affect as a mechanism through which antisocial teammate behavior may
8 influence cohesion and burnout. At the same time, the direct effects suggest that other
9 variables may also explain these relationships.

10 Finally, antisocial teammate behavior had weaker effects on other variables. For
11 example, in experimental research, during a basketball free throw shooting competition, the
12 antisocial group reported lower attention than the control group (Al-Yaaribi et al., 2018). It is
13 likely that antisocial statements directed the antisocial group's attention away from the task.
14 Antisocial teammate behavior also had an indirect negative effect on commitment via effort
15 and performance (Al-Yaaribi et al., 2016; Al-Yaaribi & Kavussanu, 2018) and a detrimental
16 effect on athletes' perceptions of social identity (Bruner et al., 2017). In sum, antisocial
17 teammate behavior could have a range of negative consequences for the recipient, most
18 notably increasing anger, negative affect, and burnout, and decreasing social identity and task
19 and social cohesion.

20 **Critical Thoughts and Future Research Directions**

21 The research reviewed in the previous sections is testament to the progress made in the
22 last decade in our understanding of the potential causes and consequences of prosocial and
23 antisocial behavior in sport. In this section, we offer some critical thoughts on the current
24 state of the literature as well as some suggestions on how to move the field forward.

1 The development of the PABSS (Kavussanu & Boardley, 2009) has enabled much
2 progress in our understanding of moral behavior in sport. However, the scale could be
3 developed further by exploring more dimensions of moral behavior. For example, the
4 antisocial opponent behavior subscale consists of items assessing gamesmanship, aggression,
5 and cheating. These behaviors could be assessed with a larger number of items and form
6 separate dimensions of antisocial opponent behavior. It is also possible that these different
7 forms of antisocial behavior have different antecedents. Similarly, prosocial teammate
8 behavior could include a dimension of helping acts – similar to the prosocial opponent
9 behavior. Researchers could also investigate prosocial and antisocial behaviors in sport that
10 are directed toward referees or coaches.

11 A consistent finding of past research is the strong link between self-reported moral
12 behavior and moral behavior of one's teammates (e.g., Benson & Bruner, 2018). However,
13 the direction of causality is not clear. That is, although it is assumed that perceptions of the
14 behavior of one's teammates influence individual behavior, the latter could also lead athletes
15 to "see" their teammates in a certain way. For example, athletes who act antisocially toward
16 their teammates may perceive them as antisocial due to their own antisocial behavior, that is,
17 they may project their own antisocial behavior onto their teammates. People tend to perceive
18 higher similarity between themselves and others, and social projection is one explanation for
19 this similarity (Cho & Knowles, 2013). Longitudinal and experimental studies are needed to
20 shed light on this issue.

21 Much of the research conducted using the PABSS is cross-sectional (e.g., Al-Yaaribi &
22 Kavussanu, 2018; Bolter & Kipp, 2018; Hodge & Lonsdale, 2011), and does not provide
23 evidence for the direction of causality between variables. Future research could examine
24 reciprocal relationships between moral behavior and some of the constructs discussed in this
25 article, particularly performance. It could be argued that performance is the most important

1 outcome in sport, however, research findings so far are inconsistent: Cross-sectional studies
2 reveal a negative link between antisocial teammate behavior and perceived performance (e.g.,
3 Al-Yaaribi et al., 2016), whereas experimental research in the laboratory shows a positive
4 effect of this behavior on basketball free-throw shooting performance (Al-Yaaribi et al.,
5 2018). Longitudinal field studies are needed to clarify the causal relationship between the
6 variables discussed in this article.

7 Although we have a good understanding of “motivational” predictors of moral behavior
8 in sport (i.e., goal orientation, motivational climate), we know much less about the
9 importance of “moral” predictors, particularly with respect to coaching behavior. The work of
10 Bolter and Weiss (2012) on the ways coaches are perceived to promote sportsmanship, is a
11 promising step in this direction. However, there are other aspects of coaching behavior,
12 which could influence athlete behavior. For instance, coaches could explicitly promote
13 antisocial behavior toward opponents, as a way to gain a competitive advantage. Similarly,
14 coaches could encourage prosocial and discourage antisocial behavior toward teammates. It
15 would be interesting to investigate the effects of these aspects of coaching behavior on athlete
16 prosocial and antisocial behavior in sport.

17 Other aspects of coaching behavior could also be examined. For example, the degree to
18 which coaches act in an ethical manner and treat players with respect, that is the degree to
19 which they are ethical leaders. Ethical leadership refers to normatively appropriate conduct
20 that is demonstrated through interpersonal relationships and actions, and the promotion of
21 this type of conduct to followers (Brown, Trevino, & Harrison, 2005). To be perceived as an
22 ethical leader, one must be seen as both a *moral person* (i.e., honest, trustworthy, caring, open
23 to input, principled, and respectful of others), and a *moral manager*, by setting and
24 communicating ethical standards, and holding others accountable when those standards are
25 violated (Treviño, Brown, & Hartman, 2003). It would be interesting to investigate the

1 relationship between ethical leadership and moral behavior in sport (see Yukhymenko-
2 Lescroart, Brown, & Paskus, 2015).

3 As well as identifying relationships with new variables, such as ethical leadership,
4 researchers could investigate moderators of previously identified relationships. Current
5 research has revealed that the mastery motivational climate in the team could strengthen the
6 potentially positive effects of prosocial teammate behavior on enjoyment and performance
7 (Al-Yaaribi & Kavussanu, 2018). It would be interesting to examine whether the
8 relationships between prosocial and antisocial behaviors and their predictors and outcomes
9 are influenced by other variables such as age, gender, sport type, and features of the social
10 environment. For example, it may be that in young athletes, who may be more sensitive to
11 peer criticism, antisocial teammate behavior may have more profound effects on enjoyment
12 and sport commitment, than it would have in older players. Such moderating influences are
13 important to be identified, as they would provide guidance on how the sport environment
14 could be structured for different age groups or for athletes with different characteristics. It
15 may also be that in sports like basketball, where interaction is more frequent among players,
16 prosocial teammate behavior may have stronger effects on enjoyment, effort and
17 performance, compared to sports with a larger number of players (e.g., football, rugby),
18 where intrateam interaction may be less frequent.

19 We also need more studies that assess the moral dimensions of the sport experience in
20 the real world of sport. Even though the experimental studies reveal interesting findings and
21 have high internal validity, like any laboratory study, they cannot fully capture the real-world
22 sport experience and the dynamics that develop in teams over time. Field studies employing
23 methodologies, that are new in this field are needed, such as daily diaries (e.g., Benson &
24 Bruner, 2018) and studies that measure athlete behavior at different points in the game (e.g.,
25 Vansteenkiste, Mouratidis, Van Riet, & Lens, 2014). More qualitative studies that help us

1 better understand the sport experience from the perspective of the participants (e.g., Bruner et
2 al., 2017) would also be enlightening, as would be studies employing multilevel modeling
3 that take into consideration group membership. More research is also needed on bracketed
4 morality in sport to enhance our understanding of how behavior varies across contexts.
5 Finally, the complex interaction between coaches and athletes, and the coach-athlete
6 relationship could be examined as well as how behaviors change over the course of the
7 season.

8 **Conclusion**

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

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Endnotes

¹ We focused on studies that have used the PABSS to ensure that our manuscript is coherent. In addition, due to the very large number of studies using this scale and journal space restrictions, it was impossible to conduct an exhaustive review of relevant literature. The reader can consult other sources for broader reviews (e.g., Boardley, 2019; Kavussanu, 2012).

²The term sportsmanship is used when referring to the Sportsmanship Coaching Behaviors Scale because this is the term used in that scale.

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- 8

- 1 Table 1
- 2 *Behaviors assessed with the Prosocial and Antisocial Behavior in Sport Scale*

Prosocial Behavior	Antisocial Behavior
Toward Teammates	
<ol style="list-style-type: none"> 1. Encourage a teammate^[SEP] 2. Congratulate a teammate for good play^[SEP] 3. Give positive feedback to a teammate^[SEP] 4. Give constructive feedback to a teammate^[SEP] 	<ol style="list-style-type: none"> 1. Verbally abuse a teammate^[SEP] 2. Swear at a teammate^[SEP] 3. Argue with a teammate^[SEP] 4. Criticize a teammate^[SEP] 5. Show frustration at a teammate's poor play
Toward Opponents	

1. Help an injured opponent^[LSEP]
2. Ask to stop play when an opponent was injured
3. Help an opponent off the floor^[LSEP]
1. Try to injure an opponent^[LSEP]
2. Try to wind up an opponent^[LSEP]
3. Deliberately foul an opponent^[LSEP]
4. Intentionally distract an opponent^[LSEP]
5. Retaliate after a bad foul^[LSEP]
6. Intentionally break the rules of the game^[LSEP]
7. Physically intimidate an opponent^[LSEP]
8. Criticize an opponent

Note. In some studies (e.g., Al-Yaaribi & Kavussanu, 2018) the item “support a teammate” has been added to the prosocial teammate behavior subscale.

Appendix

Predictors of Prosocial Behavior (PB)

Variable and direction of relationship	Authors	Design and sample	Key findings
Task orientation (+)	Kavussanu et al. (2013)	Cross-sectional; university <i>student</i> athletes ($N = 89$)	Link with PB toward teammates and opponents ($r_s = .24, .22$)
	Kavussanu & Boardley (2009)	Cross-sectional; team sport athletes ($N = 106$)	Link with PB toward teammates ($r = .30$) and opponents ($r = .18$)
Mastery climate (+)	Boardley & Kavussanu (2009)	Field hockey and netball ($N = 179$)	Link with PB toward teammates ($r = .49$), and opponents ($r = .13$)
	Stanger et al. (2018)	Cross sectional; youth team sport players ($N = 275$)	Link with PB toward teammates ($r = .44$); relationship mediated by social support and perspective taking
Autonomous motivation (+)	Hodge & Lonsdale (2011)	Cross sectional; university athletes ($N = 292$)	Link with PB toward teammates ($r = .30$), but not opponents ($r = .08$)
	Sheehy & Hodge (2015)	Cross-sectional; masters team sport athletes ($N = 147$).	Link with PB toward teammates and opponents ($r_s = .35, .34$)
Autonomy supportive climate (+)	Hodge & Gucciardi (2015)	Cross-sectional; team sport athletes ($N = 272$)	Coach and teammate autonomy supportive climate associated with PB toward teammates ($r_s = .14$ to $.35$); relationships mediated by satisfaction of relatedness and competence needs. Teammate autonomy supportive climate associated with PB toward opponents ($r = .17$).
	Cheon et al. (2018)	Intervention in secondary-grade PE teachers ($N = 33$); pupils ($N = 1824$) completed measures at 3 time points	Autonomy-Supportive Intervention Program (ASIP) predicted students' end-of-semester PB. Increased mid-semester need satisfaction and decreased mid-semester need frustration explained the effects.
	Chen et al. (2016)	Cross-sectional; team sport athletes ($N = 203$)	Indirect link with PB ($r = .24$) via autonomous motivation
Coach sportsmanship behaviors (+)	Bolter & Weiss (2013)	Cross-sectional; youth team sport players ($N = 418$)	Link with PB toward teammates ($r_s = .19 - .28$) and opponents ($r_s = .16 - .28$)

	Bolter & Kipp (2018)	Cross-sectional; youth team sport players ($N = 246$)	Teammate relatedness associated with PB toward teammates and opponents ($r_s = .23, .47$) and mediated relationship between modeling good sportsmanship and PB toward teammates
Perceived prosocial teammate behavior (+)	Bruner et al. (2018)	Cross-sectional; youth ice hockey players ($N = 376$)	Link with reported PB toward teammates ($r = .46$)
	Benson & Bruner (2018)	Daily diary study; youth hockey players ($N = 100$)	Link with within-person variance of daily PB ($r = .70$)
Social identity (+)	Bruner et al. (2014)	Longitudinal design, 3 time points; youth team sport players ($N = 426$)	In-group ties and in-group affect (time 1) related to PB toward teammates (time 3) ($r_s = .26, .37$); task cohesion (time 2) mediated effect of in-group ties on PB toward teammates
	Bruner et al. (2018)	Cross-sectional; youth ice hockey players ($N = 376$)	In-group ties and cognitive centrality associated with PB toward teammates ($r_s = .33, .31$); link of in-group affect to PB toward teammates at average and high levels of perceived norms ($r = .29$)
Moral disengagement (-)	Boardley & Kavussanu (2009)	Cross-sectional; field hockey and netball players ($N = 179$)	Link to PB toward opponents ($r = -.21$)
Moral reasoning, moral value evaluation, moral identity, and partnership orientation (+)	Shields et al. (2017)	Cross-sectional; intercollegiate student athletes ($N = 1066$)	Moral reasoning ($r = .61$), moral value evaluation ($r = .25$), moral identity ($r = .34$), and partnership orientation ($r = .27$) associated with PB
Extraversion (+)	Yildiz et al. (2010)	Cross-sectional; individual and team sports players ($N = 296$)	Link with PB toward teammates and opponents ($r_s = .22$ and $.13$); relationships mediated by internalization

Predictors of Antisocial Behavior (AB)

Positive Predictors			
Variable	Authors	Design and sample	Key findings
Ego orientation	Boardley & Kavussanu (2010)	Cross-sectional; male soccer players ($N = 275$)	Link with AB teammate ($r = .17$) and opponent ($r = .39$); both relationships mediated by moral disengagement
	Kavussanu et al. (2013)	Cross-sectional; university student athletes ($N = 89$)	Link with AB opponent ($r = .20$)
Performance climate	Boardley & Kavussanu (2009)	Cross sectional; field hockey and netball players ($N = 179$)	Link with AB teammate ($r = .40$) and opponent ($r = .21$)
	Stanger et al. (2018)	Cross sectional; youth team sport players ($N = 275$)	Link with AB teammate ($r = .36$); indirect relationship via moral disengagement
	van de Pol et al. (2018)	Cross sectional; adolescent team sport players ($N = 137$)	Link with (combined) AB in training and competition contexts ($r_s = .42, .43$); relationship mediated by moral disengagement
Controlled motivation	Hodge & Lonsdale (2011)	Cross sectional; university athletes ($N = 292$)	Link with AB teammate and opponent ($r_s = .34$ to $.43$); indirect link via moral disengagement
Controlling climate	Hodge & Gucciardi (2015)	Cross sectional; team sport athletes ($N = 272$)	Coach and teammate climate linked with AB teammate and opponent ($r_s = .34, .43$)
	Chen et al. (2016)	Cross-sectional; team sport athletes ($N = 203$).	Controlling coaching style indirectly associated with AB ($r = .33$) via controlled motivation and moral disengagement.
Coach prioritizing winning over sportsmanship	Bolter & Kipp (2018)	Cross-sectional; youth team sport players ($N = 246$)	Link with AB opponent ($r = .28$)
	Bolter & Weiss (2013)	Cross-sectional; youth team sport players ($N = 418$)	Link to AB teammate and opponent ($r_s = .28, .33$)
Perceived antisocial teammate behavior	Benson & Bruner (2018)	Daily diary study; youth hockey players ($N = 100$)	Daily AB experiences from teammates linked to within-person variance of reported daily AB toward teammates ($r = .73$); relationship stronger when greater daily experienced AB, and lower daily experienced PB, from teammates
	Bruner et al. (2018)	Cross-sectional; youth ice hockey players ($N = 376$)	Link to AB teammate and opponent ($r_s = .69, .45$)
	Benson et al. (2017)	Cross-sectional; university female soccer players ($N = 213$)	Link to own AB teammates ($r = .55$); relationship stronger the more the athletes identified with their team

Moral disengagement	Boardley & Kavussanu (2010)	Cross-sectional; male soccer players ($N = 307$)	Link to AB teammate ($r = .37$) and opponent ($r = .69$)
	Hodge & Gucciardi (2015)	Cross sectional; team sport athletes ($N = 272$)	Link to AB teammate ($r = .56$) and opponent ($r = .65$)
	Hodge & Lonsdale (2011)	Cross sectional; university athletes ($N = 292$)	Link to AB teammate ($r = .51$) and opponent ($r = .74$)
	Stanger et al. (2018)	Cross sectional; youth team sport players ($N = 275$)	Link to AB teammate ($r = .49$) and opponent ($r = .63$)
War orientation	Shields et al. (2018)	Cross-sectional; intercollegiate student athletes ($N = 1066$)	Link with AB ($r = .19$)
Self-enhancement and openness to change	Danioni & Barni (2017)	Cross sectional; adolescent team sport players ($N = 172$)	Self-enhancement linked to AB teammate and opponent ($r_s = .29, .35$); openness to change linked to AB opponent ($r = .24$). Relationship between self-enhancement and AB opponent stronger when greater parental pressure
Negative predictors			
Mastery climate	van de Pol et al. (2018)	Cross sectional; adolescent team sport players ($N = 137$)	Link with AB in training and competition ($r_s = -.20, -.32$); relationship mediated by moral disengagement
Autonomy supportive climate	Hodge & Lonsdale (2011)	Cross sectional; university athletes ($N = 292$)	Link with AB teammate and opponent ($r_s = -.19, -.25$)
	Hodge & Gucciardi (2015)	Cross sectional; team sport athletes ($N = 272$)	Link with AB teammate ($r = -.19$)
	Cheon et al. (2018)	Intervention aimed to promote autonomy support in PE teachers ($N = 33$); students ($N = 1824$) completed measures three times	Autonomy-Supportive Intervention Program predicted decreases in students' end-of-semester AB ($r = -.27$); this explained by decreased mid-semester need frustration
Coach sportsmanship behavior	Bolter & Kipp (2018)	Cross-sectional; youth team sport players ($N = 246$)	Link to AB opponent ($r = -.19$ to $-.22$); mediation via coach relatedness
	Bolter & Weiss (2013)	Cross-sectional; youth team sport players ($N = 418$)	Link to AB teammate and opponent ($r_s = -.20$ to $-.30$)
Moral identity	Kavussanu et al. (2013)	Cross sectional; university student athletes ($N = 129$)	Link to AB teammate ($r = -.32$) and opponent ($r = -.27$)
	Kavussanu et al. (2015)	Cross sectional; team sport players; Study 1 ($N = 866$), Study 2 ($N = 246$)	Link to AB teammate and opponent ($r_s = -.33$ to $-.49$)

	Shield et al. (2017)	Cross-sectional; intercollegiate student athletes ($N = 1066$)	Link to AB ($r = -.28$)
Empathy	Kavussanu et al. (2013)	Cross sectional; university student athletes ($N = 129$)	Link to AB teammate and opponent ($r = -.42, -.38$)
	Kavussanu & Boardley (2009)	Cross-sectional; team sport athletes ($N = 106$)	Link to AB teammate and opponent ($r = -.33, -.35$)
	Stanger et al. (2017)	Cross sectional; university team sport players ($N = 128$)	Perspective taking ($r = -.34$) and empathic concern ($r = -.39$) linked with antisocial opponent behavior. Anger mediated the relationship between perspective taking and AB only in women
Moral value evaluation and partnership orientation	Shields et al. (2018)	Cross-sectional; intercollegiate student athletes ($N = 1066$)	Moral value evaluation ($r = -.21$) and partnership orientation ($r = -.12$) were associated with AB
Self-transcendence and conservation	Danioni & Barni (2017)	Cross sectional; adolescent team sport players ($N = 172$)	Link to AB teammate and opponent ($r_s = -.18$ to $-.30$). Link between self-transcendence and AB teammate weaker when lower perceived maternal pressure
Extraversion	Yildiz et al. (2010)	Cross-sectional; individual and team sports players ($N = 296$)	Extraversion linked with AB toward teammates and opponents ($r_s = -.16$ and $-.07$); relationships mediated by internalization

Consequences of prosocial and antisocial teammate behavior

Prosocial Teammate Behavior (PTB)			
Variable	Authors	Design and sample	Key findings
Enjoyment	Al-Yaaribi et al. (2016)	Cross sectional; Study 1 soccer ($N = 203$) Study 2 basketball ($N = 281$) youth players	PTB linked with enjoyment ($r_s = .26, .41$)
Happiness	Al-Yaaribi et al. (2018)	Experiment; undergraduate sport science students assigned to a prosocial ($n = 34$), antisocial ($n = 34$), or control ($n = 34$) group	Prosocial group reported higher happiness than the other groups
Effort and performance	Al-Yaaribi et al. (2016)	Cross sectional; Study 1 soccer ($N = 203$) Study 2 basketball ($N = 281$) youth players	PTB linked with effort ($r_s = .35, .27$), performance ($r_s = .44, .34$); both relationships mediated by enjoyment
	Al-Yaaribi & Kavussanu (2018)	Cross sectional; adolescent male soccer players ($N = 358$)	PTB linked with effort ($r = .34$) and performance ($r = .36$); Stronger relationships between PTB and performance at high levels of mastery climate
	Al-Yaaribi et al. (2018)	Experiment; undergraduate sport science students assigned to a prosocial ($n = 34$), antisocial ($n = 34$), or control ($n = 34$) group	Prosocial group reported more happiness than the other groups and performed better than the control group
Commitment	Al-Yaaribi et al. (2016)	Cross sectional; Study 2 youth basketball players ($N = 281$)	PTB linked with commitment ($r = .45$) directly and indirectly via enjoyment and performance
	Al-Yaaribi & Kavussanu (2018)	Cross sectional; adolescent male soccer players ($N = 358$)	PTB linked with commitment ($r = .74$); relationship mediated by enjoyment
Cohesion	Pizzi & Stanger (2019)	Cross sectional; team sport players ($N = 144$)	PTB linked with task and social cohesion ($r_s = .24 - .33$).
	Al-Yaaribi & Kavussanu (2017)	Cross sectional; team sport players ($N = 272$)	PTB linked with task cohesion ($r = .41$); this relationship mediated by positive affect
	Graupensperger & Tisak (2018)	Cross sectional; youth ice hockey players ($N = 238$)	PTB linked with task cohesion ($r = .50$)

Social identity	Bruner et al. (2017)	Stimulated recall interview; youth ice hockey players ($N = 23$)	PTB strengthened social identity
	Benson & Bruner (2018)	Daily diary study; youth ice hockey players ($N = 100$)	Daily experiences of PTB linked with a strong social identity
Collective efficacy	Pizzi & Stanger (2019)	Cross sectional; team sport players ($N = 144$)	PTB linked with collective efficacy ($r_s = .26$) directly and indirectly via task cohesion
Burnout	Al-Yaaribi & Kavussanu (2017)	Cross sectional; team sport players ($N = 272$)	PTB linked with burnout ($r_s = -.23$ to $-.40$); relationship mediated by positive affect
Antisocial Teammate Behavior (ATB)			
Anger	Al-Yaaribi et al. (2016)	Cross sectional; Study 1 soccer ($N = 203$) Study 2 basketball ($N = 281$) youth players	ATB linked with anger ($r_s = .30$ and $.28$)
	Al-Yaaribi & Kavussanu (2018)	Cross sectional; adolescent male soccer players ($N = 358$)	ATB linked with anger ($r = .40$)
	Al-Yaaribi et al. (2018)	Experiment; undergraduate sport science students assigned to a prosocial ($n = 34$), antisocial ($n = 34$), or control ($n = 34$) group	ATB group reported higher anger than the two groups
Anxiety	Al-Yaaribi et al. (2018)	Experiment; undergraduate sport science students assigned to a prosocial ($n = 34$), antisocial ($n = 34$), or control ($n = 34$) group	ATB group reported more anxiety than the prosocial group
Effort and performance	Al-Yaaribi et al. (2016)	Cross sectional; Study 1 soccer ($N = 203$) Study 2 basketball ($N = 281$) youth players	ATB linked with effort ($r_s = -.34, -.21$) and performance ($r_s = -.32, -.34$)
	Al-Yaaribi & Kavussanu (2018)	Cross sectional; adolescent male soccer players ($N = 358$)	ATB linked with effort ($r = -.32$), and performance ($r = -.34$); relationships between ATB and performance mediated by effort. Stronger relationship between ATB and performance at higher levels of performance climate
Commitment	Al-Yaaribi et al. (2016)	Cross sectional; youth basketball players ($N = 281$)	ATB linked indirectly with commitment via effort and performance

Attention	Al-Yaaribi et al. (2018)	Experiment; undergraduate sport science students assigned to a prosocial ($n = 34$), antisocial ($n = 34$), or control ($n = 34$) group	Antisocial group reported lower attention than the other two groups
Cohesion	Pizzi & Stanger (2019)	Cross sectional; team sport players ($N = 144$)	ATB linked with task cohesion ($rs = -.19$ to $-.20$).
	Al-Yaaribi & Kavussanu (2017)	Cross sectional; team sport players ($N = 272$)	ATB linked with task cohesion ($r = -.36$); relationship mediated by negative affect
	Graupensperger & Tisak (2018)	Cross sectional; youth ice hockey players ($N = 238$)	ATB linked with task cohesion ($r = -.44$)
Social identity	Bruner et al. (2017)	Stimulated recall interview; youth ice hockey players ($N = 23$)	ATB undermined social identity only for players who reported low and median frequencies of intra-team antisocial behavior
	Benson & Bruner (2018)	Daily diary study; youth ice hockey players ($N = 100$)	Daily experiences of ATB linked with a weak social identity
Collective efficacy	Pizzi & Stanger (2019)	Cross sectional; team sport players ($N = 144$)	ATB linked with collective efficacy ($r = -.18$).
Burnout	Al-Yaaribi & Kavussanu (2017)	Cross sectional; team sport players ($N = 272$)	ATB linked with burnout ($rs = .29$ - $.37$); relationship mediated by negative affect