A Meta-Analytic Review of Studies Using the Prosocial and Antisocial Behavior in Sport Scale: Associations Among Intergroup Moral Behaviors

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Sport participation frequently involves prosocial behavior among in-group members (i.e., teammates), yet the competition found in sport often breeds hostility toward out-groups (i.e., opponents). Using sport as a lens to better understand associations among group-relevant moral behaviors, we conducted four meta-analyses to aggregate existing findings regarding associations among moral behaviors enacted in interteam realms (i.e., prosocial and antisocial behavior toward teammates and opponents). As a secondary goal, we tested whether sample age and gender distribution moderate these associations. A systematic literature search produced 39 relevant effect sizes (total $N = 9,240$) from studies that used the Prosocial and Antisocial Behavior in Sport Scale (Kavussanu & Boardley, 2009). Prosocial behavior toward teammates had a moderate positive association with prosocial behavior toward opponents, and antisocial behavior toward teammates had a strong positive association with antisocial behavior toward opponents. Age moderated the association between prosocial behavior toward teammates and antisocial behavior toward opponents such that there was a positive correlation across studies that sampled adult athletes, contrasting against a negative correlation for studies that sampled youth athletes. This aggregation of existing literature advances our theoretical understanding of how small group processes may shape athletes’ moral behavior and holds several practical implications. Notably, battling concerns that promoting in-group ties within sport teams may inadvertently foster out-group derogation, efforts to promote strong team environments (i.e., team-building) should align with strategies that also promote prosocial behavior outside of team boundaries.

Keywords: sport morality, group dynamics, meta-analysis, systematic review

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The inherently social nature of sport affords opportunities for athletes to engage in positive social behaviors with peers and develop social skills. Sport is accordingly characterized as an activity that entails cooperation, loyalty, and trust among teammates while demonstrating compassion and fairness toward opponents (Bredemeier, Shields, Weiss, & Cooper, 1986). Indeed, when athletes develop positive relationships with peers and coaches both within and...
outside of their sport groups, sport participation promotes personal growth and favorable psychological outcomes (Eime, Young, Harvey, Charity, & Payne, 2013). However, sport competition may also promote a variety of negative behaviors that jeopardize the presumptive value of sport (e.g., cheating or aggression). Although moral behaviors in sport are often investigated as outcomes, they also hold consequences for athletes’ physical and psychological well-being (Kavussanu & Boardley, 2012). Even when solely looking at behaviors among teammates, positive social acts can lead to enhanced feelings of cohesion, commitment, effort, performance, and enjoyment (Al-Yaaribi, Kavussanu, & Ring, 2016; Bruner, Boardley, & Côté, 2014), whereas negative social behaviors, such as being bullied by teammates, can weaken connections with peers (Evans, Adler, MacDonald, & Côté, 2016).

Given the global prominence of sport participation, researchers have focused a great deal of energy to understand patterns of prosocial and antisocial behaviors that athletes direct toward teammates and opponents (Benson & Bruner, 2018; Bruner et al., 2014). Prosocial behavior entails voluntary actions intended to benefit another (Eisenberg & Fabes, 1998), such as helping a player up after a fall. Meanwhile, antisocial behaviors are voluntary actions intended to harm or disadvantage another (Sage, Kavussanu, & Duda, 2006), such as attempting to injure an opponent or faking an injury. These behaviors are considered independent from one another and follow unique patterns depending on whether behavior is directed toward teammates or opponents (Bandura, 1999). With these key classifications in mind, the forms of moral behavior that are often studied by sport researchers include prosocial behavior toward teammates, prosocial behavior toward opponents, antisocial behavior toward teammates, and antisocial behavior toward opponents (Kavussanu & Boardley, 2009).

Although recent work has demonstrated that moral sport behavior has consequences for both the actor and recipient (Al-Yaaribi et al., 2016; Benson & Bruner, 2018), there remains an untapped potential to explore associations between in-group and out-group behaviors. Building from decades of psychological evidence that details how intergroup processes shape moral behaviors (e.g., preferences for in-group members over out-group members; Tajfel & Turner, 1979), studying intergroup associations among moral behaviors could advance how we understand sport groups and promote positive sport experiences. Thus, the goal of this review was to advance our knowledge of intergroup processes in sport by aggregating findings regarding associations between prosocial and antisocial behaviors directed toward teammates and opponents.

### Sport Morality Theory and Measurement

Researchers interested in sport behavior have predominantly leaned on Bandura’s (1991) social cognitive theory of moral thought and action to explain athlete behavior (Kavussanu & Boardley, 2009). This theory focuses on overt behaviors and the consequences that actions have on others as being of core focus in the moral domain, as opposed to attitudes or motives that are nevertheless important but do not have direct consequences for others (Bandura, 1991; Turiel, 1983). Therefore, it is the impact of athletes’ behavior on others that is the key to sport morality (Kavussanu, 2008). This focus on how behavior will impact others is evident in how athletes self-regulate by anticipating affective responses of their actions, including how the actor will feel following a moral action (e.g., pride or shame), as well as how others will feel (e.g., approval or disapproval; Bandura, 1991). People behave in ways that they believe will bring them a positive sense of self-worth and avoid behavior that they believe will produce negative affect such as guilt (Bandura, 1999). Specifically, Bandura (1999) distinguishes between proactive and inhibitive morality, where the former refers to one’s ability to actively behave in an appropriate and “humane” manner (i.e., prosocial behavior), and the latter refers to one’s ability to stifle and resist urges to behave “inhumanely” (i.e., antisocial behavior). Based on this theoretical underpinning, moral behavior is defined within sport literature as a broad range of intentional acts with the potential to result in beneficial or harmful consequences for others (Kavussanu & Boardley, 2012).

Numerous measurement tools have been developed with the goal of measuring prosocial and antisocial sport behaviors. These include the Sport Behavior Inventory (Rutten et al., 2008) and early scales used by Kavussanu and
colleagues (Kavussanu, Seal, & Phillips, 2006). However, the Prosocial and Antisocial Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009) revolutionized sport morality research by being the first instrument to clearly distinguish behavior directed toward teammates from behavior directed toward opponents. In addition to being the core tool that directly contrasts in-group and out-group behavior, the PABSS is the most predominant moral behavior scale in sport literature and assesses athletes’ self-reports of moral behavior across four principle components: prosocial behavior toward teammates, prosocial behavior toward opponents, antisocial behavior toward teammates, and antisocial behavior toward opponents.

This instrument was specifically validated with athletes ranging from 12 to 64 years of age and consists of 20 items whereby participants report how often they engage in a range of sport behaviors. The scale was developed and further validated (Kavussanu, Stanger, & Boardley, 2013) to be used in sports that involve direct contact between opposing teams (e.g., soccer or basketball). As some items from the antisocial behavior toward opponents subscale draw upon forms of physical contact (e.g., “tried to injure an opponent”), the PABSS may be inappropriate, or may need to be modified, for use in sports which do not involve physical contact (e.g., tennis, swimming, or volleyball). Whereas Kavussanu and Boardley (2009) distinguish between prosocial and antisocial behaviors, it is critical to understand that these types of behavior are not mutually exclusive. For example, if an athlete is more prosocial to opponents, this does not mean that this athlete is subsequently less antisocial (Bandura, 1999). On the contrary, athletes often exhibit both prosocial and antisocial behaviors toward the same target (Bruner et al., 2014).

Considering the composition of the PABSS, we note that there are two types of behavior pairings that hold great relevance for advancing theoretical and practical understanding about how moral acts toward teammates and opponents are associated. Intergroup inverse behaviors refer to associations that exist between opposing dimensions of moral behavior across group boundaries (i.e., in-group prosocial with out-group antisocial and in-group antisocial with out-group prosocial). Further, intergroup congruent behaviors are matching dimensions of moral behavior across group boundaries (i.e., in-group antisocial with out-group antisocial and in-group prosocial with out-group prosocial). Unpacking these pairings of behaviors could garner understanding about how well-established theories of intergroup processes relate to the sport context and provide practical guidance for fostering optimal environments that encourage prosocial behavior both within and outside of team boundaries.

Group Dynamics and Moral Behavior

Studying moral behavior in sport provides a unique environment to investigate the dynamics of small groups. Notably, sport settings generate a clear differentiation between the in-group and the out-group that entails distinct standards for how members of groups should be treated, providing an ideal context to study social behaviors in relation to groups. Considering the intergroup behavior combinations using seminal group dynamics literature (Sherif, Harvey, White, Hood, & Sherif, 1961; Sumner, 1906), perhaps the most notable insight is that stronger negative out-group attitudes and behavior can lead to enhanced feelings of in-group positivity and solidarity. For example, we know that being grouped with others on even a trivial basis (e.g., coin flip) can dramatically shape behavior toward in- and out-group members (Tajfel, Billig, Bundy, & Flament, 1971). Early group dynamics research also provides evidence that competition can turn simple conflicting interests into strong overt social conflict that often results in positive in-group behavior and hostile out-group behavior (Campbell, 1965). As an example, Sherif and colleagues (1961) pitted two groups of boys against one another at a summer camp in a series of competitions that resulted in the emergence of prosocial in-group behavior (e.g., encouragement) and strong antisocial out-group behavior (e.g., vulgar remarks and physical aggression). Indeed, research involving the association between in-group love and out-group hostility stems back to the early 1900s, with Sumner (1906) stating that “the relation of comradeship and peace in the we-group and that of hostility and war towards others-groups are correlative to each other” (p. 12).

Whereas there are many theories used to predict moral behaviors for those who lie in- and outside of groups (e.g., interdependence theory:
Kelley & Thibault, 1978; realistic group conflict theory; Campbell, 1965), social identity theory makes perhaps the broadest statement regarding morality across group boundaries (Tajfel & Turner, 1979). Just as this theory has become central to intergroup processes research, it is also an increasingly popular perspective for studying sport behavior (Rees, Haslam, Coffee, & Lavallee, 2015). This theory maintains that affective investments in group memberships fundamentally alter behavior toward fellow members, as well as toward members of competing or conflicting groups (Haji, McKeown, & Ferguson, 2016).

Centered on the premise that individuals come to understand themselves in terms of the group with which they identify, social identity theory holds that individuals with strong group associations are motivated to differentiate their group as superior to other groups to maintain personal esteem, feel distinct, and feel connected to others (Tajfel & Turner, 1979). That is, athletes form self-definitions as a member of their sport team and, when given the opportunity, will attempt to demonstrate the dominance of their own team compared with others (Tajfel & Turner, 1979). As such, group identification (e.g., team membership) may lead individuals to interact more prosocially with in-group members than with out-group members (Nezlek & Smith, 2005). Recent work by Bruner and colleagues has demonstrated a pertinent link between social identity and sport behavior in that athletes who strongly identify with their team demonstrate more prosocial and less antisocial behavior toward teammates, as well as less prosocial and more antisocial behavior toward opponents (Benson, Bruner, & Eys, 2017; Bruner et al., 2014, 2017).

**Current Study**

Despite the burgeoning body of knowledge related to moral behavior in sport (Benson & Bruner, 2018), we have yet to aggregate evidence about how behavior toward the in-group (i.e., teammates) relates to behavior toward other groups (i.e., opponents). Research that considers intergroup processes in moral behavior may garner theoretical understanding of team sport competition and guide stakeholder efforts to create team environments that promote strong positive in-group identities while nevertheless facilitating prosocial behavior toward opponents. With this rationale in mind, the purpose of the current review was to systematically synthesize the existing literature to expand our theoretical knowledge regarding in-group and out-group sport behavior. With the goal of increasing our understanding of moral behavior between competing groups in sport, the current series of meta-analyses quantitatively aggregated effect sizes of associations between intergroup sport behaviors. Given the aims of the current study, we focused specifically on studies that used the PABSS, as this enabled us to investigate intergroup associations (Kavussanu & Boardley, 2009).

Although meta-analyses are not designed to test hypotheses (Charlton, 1996), theory-driven expectations can typically be determined. However, we note that there are conflicting perspectives regarding the intergroup inverse associations. Whereas social identity theory suggests that prosocial in-group behavior would positively relate to antisocial out-group behavior, other theories (Bandura, 1991) predict that individual levels of proactive and inhibitive morality would remain consistent regardless of the target. Given this discrepancy, it was difficult to anticipate specific associations and, as such, the current meta-analysis aims to provide clarity regarding the discord between the two popular theoretical perspectives.

Moreover, the current study investigated potential moderating factors that may impact the association between the moral behaviors of interest. First, the associations between moral behaviors in sport may differ based on athlete age (Kavussanu et al., 2006). Notably, antisocial behaviors in sport increase with age, whereas prosocial behaviors decrease—a finding that is largely attributed to the increasing performance climate and decreasing mastery motivation found in more experienced sport groups (Boardley & Kavussanu, 2010). As such, we anticipated that the relations between behaviors may be moderated by the age of the samples. Moreover, several studies report differences between male and female athletes pertaining to moral sport behavior. The bulk of these studies found evidence that males tend to engage in more antisocial and aggressive behavior than females, whereas females are more prosocial to opponents (Coulomb-Cabagno & Rascle, 2006; Kavussanu et al., 2006; Sage & Kavussanu, 2007).
As such, we anticipated that the gender distribution of study samples may moderate the associations between sport behaviors. No hypotheses were made for specific directions of moderation.

Method

Throughout the present study, we followed the guidelines for preferred reporting items for systematic reviews and meta-analyses (PRISMA; Moher, Liberati, Tetzlaff, & Altman; PRISMA Group, 2010). However, the meta-analysis was not preregistered using PROSPERO.

Search and Selection

The goal of the search was to uncover all available empirical studies—including both published and unpublished data involving the PABSS instrument—available through the public domain. Given that we constrained our search to only studies that used this scale, our initial search approach involved using Google Scholar to conduct a descendent search on the Kavussanu and Boardley (2009) article that first established the PABSS, as well as the Kavussanu, Stanger, et al. (2013) article that further validated the PABSS. This search procedure entailed identifying all articles that have cited these papers. Our rationale for doing so is that it is likely that any study that used the PABSS would have cited one of these papers. Our subsequent and primary search of four electronic databases similarly sought studies that used the PABSS instrument (i.e., Dissertations and Thesis Proquest, Web of Science, SPORTDiscus, and PsycINFO). We used two separate terms for the database searches. The first was “(sport AND prosocial) OR (sport AND antisocial)” and the second was “(PABSS AND sport) OR (PABSS AND athlete).” Searches were conducted on full texts, apart from one database (i.e., Web of Science) that limited the search to the title and abstract level. Similar to recent systematic reviews (Evans et al., 2016), as a supplementary step, we ran these search terms through the Google Scholar search engine and screened the first 500 results at the level of title and abstract, though no additional articles were found.

Search procedures entailed screening all titles, then relevant abstracts, and finally, full articles when deemed appropriate (i.e., abstract indicated that the article may be eligible for inclusion). To reduce the likelihood of missing a relevant study, both the first and second authors completed all searches, separately, and results were compared. Four unpublished data sets were also uncovered—three of which were presented at national conferences and one that is the initial data set for an ongoing longitudinal study. This search process was conducted in August, 2016, and a follow-up search was conducted by the first author in March, 2017 to include studies published since the initial search. Figure 1 provides a flowchart of the search process (i.e., PRISMA; Moher et al., 2010).

Eligibility Criteria and Extraction Procedure

To be included in the current meta-analyses, studies needed to meet the following criteria: (a) use the PABSS instrument (Kavussanu & Boardley, 2009) to assess prosocial and/or antisocial behavior in sport, (b) assess intergroup behavior by including both teammate and opponent subscales, and (c) be published or written in English. Although we did not explicitly set a start date for searching articles, the practical limit began in 2009 as only studies that used the PABSS were included. As such, the search spanned studies published from January 1 2009 until March 20 2017. When multiple articles used the same sample of participants, we only analyzed results from the earliest published article. When a study collected data at multiple time points, only the initial time point was included. Information from each study was extracted using a spreadsheet designed to record information about authors, publication year, sample demographics (i.e., participant age, years of experience, and gender), sample size, effect sizes (i.e., correlation coefficients), reliability coefficients (i.e., alpha coefficients), means, and standard deviations. All coding was done by both the first and second authors, and then cross-checked for discrepancies, which were resolved through conversations between the two authors. When essential information was not available in the articles, we contacted authors through e-mail to request the information. As suggested by Schmidt and Hunter
Figure 1. Preferred reporting items for systematic reviews and meta-analyses flow diagram describing the selection processes for inclusion of studies in the present meta-analyses.
Coding moderators. Age was coded as the mean age of each sample, and gender distribution was coded as the percentage of females in each sample (Brown & Fletcher, 2017). Study quality was coded using a systematic approach adapted from Balish, McLaren, Rainham, and Blanchard (2014). Each study was rated across 11 items that related to aspects such as adequate reliability of PABSS subscales ($\alpha$'s $> .70$), appropriate study context (i.e., sport settings that the PABSS was validated for), and whether any adaptations were made to the PABSS subscales. A copy of the full checklist and scoring list, and the interrater reliability improved ($\kappa = 0.82; 93\%$ agreement). The first and second authors then coded four additional articles using the revised checklist, and the interrater reliability improved ($\kappa = 0.82; 93\%$ agreement). The first and second authors then separately coded subsets of the remaining articles. Although coded values ranged from 5 to 11 (out of 11), systematic reviews often cluster studies into relatively higher or lower quality groupings when novel coding schemes are applied or when study quality involves coding aspects that are specific to the given review rather than representing broader quality. As such, we used a median split to dichotomize studies as either high or low quality (Prince, Saunders, Gresty, & Reid, 2014).

Analyses

Schmidt and Hunter's (2014) meta-analysis methods were used to calculate synthesized effect sizes for each of the four associations of interest. This technique calculates a mean correlation that is weighted based on sample size and corrects for unreliability (i.e., $\rho$). Statistical significance of the calculated mean correlations ($\rho$) was determined using a 95% confidence interval (CI), whereby intervals that did not include zero were significant. Total variances of each correlation were calculated, as well as those attributed to sampling and measurement errors. Using Schmidt and Hunter’s (2014) recommendation, heterogeneity of variance was determined using the 75% decision rule whereby an effect size was considered heterogeneous if $<75\%$ of the total variance was attributed to corrected artifacts (i.e., sampling and measurement errors). Although this method of determining heterogeneity is commonly used in meta-analyses across disciplines (Ng et al., 2012), Borenstein, Hedges, Higgins, and Rothstein (2009) assert that the 75% rule was formulated for use within industrial/organizational psychology and argue that it may not be germane to other areas. As such, we also calculated $I^2$ values, whereby values of 0.50 to 0.75 indicate moderate heterogeneity, and values $>0.75$ indicate high heterogeneity (Borenstein et al., 2009). The 95% confidence interval for the $I^2$ value indicates whether any heterogeneity is genuine, whereby intervals that do not contain zero are considered significant and warrant moderation tests. When effect sizes were deemed heterogeneous, moderation analyses were conducted to potentially explain this heterogeneity.

Metaregressions on age and gender distribution were analyzed by regressing the correlations between study variables and the mean participant age of the sample and the percentage of female participants in the sample, respectively. Studies that did not include either sample age or gender distribution were not included in the respective metaregression analyses. Statistical significance of the standardized regression coefficient was determined by calculating a 95% confidence interval using a 5,000-iteration bootstrapping method (Mooney & Duval, 1993). Lastly, to test whether study quality explained heterogeneity between studies, we used categorical moderation analyses to investigate whether low-quality studies demonstrated different patterns of associations than high-quality studies. This entailed conducting a separate meta-analytic series for each set of studies and calculating a $z$-score to assess whether the subsets differed significantly, whereby $z$-scores $\geq \pm 1.96$ indicate significant moderation (Raju & Brand, 2003).
letes (Sheehy & Hodge, 2015; \( M_{age} = 46.18 \) years) was determined to be overly influential (i.e., high leverage) and was excluded from the metaregression on mean sample age (see online supplemental material for plots depicting high leverage). Sensitivity analyses were performed to better assess the impact of removing the outlier study. Furthermore, failsafe statistics to account for publication bias were not incorporated in the current review because we focused on correlations between subscales that were not central to the goals of studies in the review (Schmidt & Hunter, 2014). In other words, publication bias was not a concern because the strength of relationship between PABSS subscales likely did not influence publication decisions.

Results

A total of 550 articles were identified through the search strategies, of which 274 were duplicates. After removing duplicates, 276 articles were screened at the title level, and 132 articles were screened at the abstract level (Figure 1). A total of 32 published studies ultimately met the inclusion criterion, along with data from four unpublished data sets—containing effect sizes from a total of 39 samples (\( N = 9,240 \)). The relevant details of each study can be found in Table 1. Independent samples often measured associations between only certain variables, therefore the total \( k \) for each analysis varied slightly. Furthermore, all associations considered were heterogeneous because variance attributable to all artifacts ranged from 14.7% to 22.72%, and \( I^2 \) values were all >0.65, thus confirming that moderation analyses were imperative.

Intergroup inverse behaviors

Prosocial teammate—antisocial opponent. The results of all four meta-analyses are reported in Table 2. Including all 35 relevant effect sizes (Table 1), the average corrected correlation between prosocial behavior toward teammates and antisocial behavior toward opponents was not significant (\( p = .01; 95\% \) CI \([-0.02, .03]\)). Although this result means that the relationship between the two behavior constructs was not significant across all samples, we found that this association was significantly moderated by age (Figure 2). The metaregression on mean participant age indicated a significant moderation that accounted for 17% of the heterogeneity (\( \beta = .41, 95\% \) CI \([.23, .62]\), \( R^2 = .17 \)). Specifically, as athlete age increased, the positive association between prosocial behavior toward teammates and antisocial behavior toward opponents strengthened. The forest plot in Figure 2 is provided to interpret this moderation and illustrates that studies featuring youth participants predominantly had a negative association between prosocial-teammate and antisocial-opponent behavior, whereas this association was predominantly positive in adult samples. The metaregression on the gender distribution of included studies was not significant (\( \beta = .12, 95\% \) CI \([-0.14, .34]\), \( R^2 = .02 \)), indicating that gender had limited impact on the relation between prosocial behavior toward teammates and antisocial behavior toward opponents.

Antisocial teammate–prosocial opponent. The 34 relevant samples (Table 1) revealed a small positive mean correlation for the association between antisocial behavior toward teammates and prosocial behavior toward opponents (\( \rho = .10; 95\% \) CI \([.07, .13]\); Table 2). This small positive association indicates that athletes who are more antisocial toward teammates may be more prosocial to opponents. Neither age (\( \beta = .14, 95\% \) CI \([-0.21, .48]\), \( R^2 = .02 \)) nor gender (\( \beta = -.02, 95\% \) CI \([-0.35, .18]\), \( R^2 < .01 \)) moderated this correlation.

Intergroup Congruent Behaviors

Prosocial teammate—prosocial opponent. A moderate positive mean correlation was found when synthesizing the 34 samples that measured the association between prosocial behavior toward teammates and prosocial behavior toward opponents (\( \rho = .42; 95\% \) CI \([.40, .45]\); see Tables 1 and 2). Age did not significantly moderate this association (\( \beta = -.04, 95\% \) CI \([-0.34, .37]\), \( R^2 = .00 \)) nor did gender (\( \beta = -.10, 95\% \) CI \([-0.36, .21]\), \( R^2 = .01 \)). Athletes’ level of prosocial behavior toward teammates and opponents appear to be moderately related—meaning that as athletes report more prosocial behavior toward one target...
### Table 1
Sample Size, Moderators, and Correlation Effect Sizes for Each Included Study

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<th>Quality</th>
<th>PB-T—AB-O</th>
<th>PB-T—PB-O</th>
<th>PB-O—AB-T</th>
<th>AB-O—AB-T</th>
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**Note.** N = number of participants in each independent sample; r = correlation between the variables listed in respective columns. High-quality studies were above the median split, whereas low-quality studies were below the median split (see online supplemental material for details of quality coding). PB-T = prosocial behavior toward teammates; PB-O = prosocial behavior toward opponents; AB-T = antisocial behavior toward teammates; AB-O = antisocial behavior toward opponents. Dashes indicate that these data were not assessed or not reported in the study.
CI \[ corrected correlations; \%Var \] the 95\% confidence interval does not include zero); CI sample size; M ↔ Intergroup inverse Prosocial teammate see Tables 1 and 2). Neither did age did moderate this study when we analyzed age as a moderator. Regarding the association between prosocial teammates and antisocial opponents, the metaregression on age with the level athletes (Sheehy & Hodge, 2015; R \[H9267/H11005\]/H11002 \[46.18\] but only such that the positive association was slightly higher in low-quality studies (\(\rho = .46; 95\% \text{ CI } [.42, .49]\)) than in high-quality studies (\(\rho = .34; 95\% \text{ CI } [.31, .38]\)). Moreover, one study that used masters-level athletes (Sheehy & Hodge, 2015; \(M_{\text{age}} = 46.18\) years) was deemed to be an outlier for the metaregression analyses on age. Although this study was included in all of the main effects meta-analyses, we removed this study when we analyzed age as a moderator. Regarding the association between prosocial teammates and antisocial opponents, the metaregression on age with the study included (\(\beta = .24, 95\% \text{ CI } [.04, .56], R^2 = .06\), contrasted to the metaregression without this study (\(\beta = .41, 95\% \text{ CI } [.23, .62], R^2 = .17\)), indicates an \(\Delta R^2\) value of .11. Removing the outlier study for the remaining three metaregressions had little impact (i.e., all \(\Delta R^2\) values < .01). In sum, removing the outlier study from metaregressions on age only had a noticeable impact on the prosocial-teammates and antisocial-opponents association, such that the regression coefficient was notably smaller when including the outlier study, but the moderation was still significant. A figure depicting the removal of this study is available in the online supplemental material.

### Discussion

Studying associations between intergroup moral behaviors across sport teams may extend theories about intergroup processes to a novel context and reveal practical insights for facilitating positive moral environments for youth and adult athletes (Bandura, 1991; Tajfel & Turner, 1979). The present meta-analyses aggregated results from across 39 effect sizes, representing associations between prosocial and antisocial behaviors directed toward both teammates and opponents. Our aim was to enhance the understanding of intergroup moral behaviors in sport by clarifying the direction and magnitude of each association across existing studies. As a secondary goal, we tested whether age or gender moderated these associations. Our results revealed strong associations between intergroup congruent behaviors (i.e., antisocial or prosocial
behaviors related across groups), and small associations among intergroup inverse behaviors. Moreover, the association between prosocial behavior toward teammates and antisocial behavior toward opponents differed based on sample age, whereby the negative association between these constructs in youth samples shifted toward being a positive association in older samples.
Interpreting Associations Within Intergroup Congruent and Inverse Behaviors

Intergroup congruent behaviors. The most conspicuous meta-analytic findings were the strong positive relations between intergroup congruent behaviors (e.g., prosocial behavior directed toward both teammates and opponents). These associations may indicate that certain athletes are simply more or less prosocial or antisocial regardless of the target. From a methodological and intuitive stance, between-person associations for congruent behavioral dimensions should show strong relationships, as athletes’ behavioral tendencies (i.e., individual differences) may be consistent regardless of the target. However, there is also theoretical support for this presumption that can be drawn from Bandura’s (1991) social cognitive theory of moral thought and action. Specifically, we expect that athletes would (at least initially) behave prosocially to both teammates and opponents in anticipation of the associated positive emotions such as pride and generally refrain from antisocial behavior to avoid feelings of guilt and shame.

In addition to theoretical support, this finding is also supported by strands of empirical evidence, such as the finding that self-conscious emotions (e.g., guilt) can effectively regulate antisocial sport behavior regardless of competition or group affiliations (Stanger, Kavussanu, & Ring, 2012). Positive associations between congruent prosocial or antisocial behaviors across groups also reveal how personal circumstances, or roles that group members hold within the team, may dictate similar in- and out-group moral behavior (Cope, Eys, Beaucamp, Schinke, & Bosselut, 2011). Using the roles that group members hold as an example, informal leaders may have roles demanding that they model prosocial behavior across group boundaries, whereas “enforcers” may demonstrate greater levels of antisocial behavior toward opponents. In short, theoretical and empirical evidence supports the claim that individual characteristics or personal circumstances may lead athletes to enact similar patterns of prosocial (and antisocial) behaviors regardless of target.

Intergroup inverse behaviors. Whereas the intergroup congruent correlations indicate similarities in how athletes act toward teammates and opponents, a richer and more complex picture is gained when considering patterns of associations between intergroup inverse behaviors. Recall that, based on the “in-group love–out-group hate” supposition (Sumner, 1906; Sherif et al., 1961), we expected prosocial behavior toward teammates to be positively associated with antisocial behavior toward opponents. Contrary to this expectation, we failed to find a significant association between prosocial behavior toward teammates and antisocial behavior toward opponents. Although this finding supports the contention that prosocial and antisocial behavior are indeed independent dimensions (Bandura, 1999; Kavussanu & Boardley, 2009), heterogeneity in this association was partially accounted for by sample age. Whereas the youngest samples demonstrated that youth engaged in less antisocial behavior toward opponents when they reported higher prosocial behavior toward teammates, the association became positive among increasingly older samples, whereby those who were more prosocial toward teammates were also more antisocial toward opponents. In other words, increased prosocial behavior toward the in-group may indeed be associated with increased antisocial behavior toward the out-group among adults, but, for young athletes, increased prosocial behavior toward the in-group may instead be associated with decreased antisocial behavior directed at the out-group.

Leveraging prior work to frame the finding that a positive association for in-group love–out-group-hate was only present among older athletes, we apply Bandura’s (1991) social cognitive theory to argue that younger athletes may care less about the target of the behavior and more about the behavior itself—wherein they generally strive to be prosocial to all involved. This may stem from typical childhood reinforcements to be kind (and not mean) to all, regardless of team membership. Youth sport also entails less competitive and more mastery-supportive environments (Boardley & Kavussanu, 2010), whereby having opponents to play against simply makes the game possible and more fun. Older athletes may, on the other hand, make clear distinctions about team membership (Kavussanu & Boardley, 2009) and become more receptive to normative sport behavior, which sometimes involves antisocial behavior.
toward opponents (Kavussanu et al., 2006). Along these lines, bracketed morality represents a mechanism whereby athletes justify the use of otherwise unacceptable behavior by viewing the sport domain as having its own unique set of moral standards—a view that may be more prevalent in adult sport (Kavussanu, Boardley, et al., 2013). Older athletes may learn over time that sport has its own set of expectations where antisocial acts toward opponents, such as intimidation and taunting, are accepted and can serve a strategic purpose (Sheldon & Aimar, 2001).

Intergroup inverse behavior also includes the association between antisocial behavior toward teammates and prosocial behavior toward opponents. We found a small, but significant, positive association whereby athletes who reported greater antisocial behavior toward teammates also reported increased prosocial behavior toward members of opposing teams. Although antisocial and prosocial behavior are not necessarily inverse reflections of one another (Bandura, 1999), this association provides preliminary and indirect support for the “in-group love–out-group hate” supposition (Sumner, 1906). This is demonstrated when considering this pattern as a direct reflection of this supposition: Taking low antisocial teammate behavior as an indication of “love” and low prosocial opponent behavior as an indication of “hate.” From this standpoint, the positive association between antisocial in-group behavior and prosocial out-group behavior supports the notion that how athletes treat teammates is associated with how they treat opponents (Sumner, 1906).

Interpreting intergroup behavior analyses. An overarching finding was that behaviors directed toward teammates were associated with behaviors directed toward opponents, supporting the potential for group processes to govern intergroup behaviors. As such, theorists should consider prosocial and antisocial behaviors in conjunction by exploring how behavior toward one’s in-group impacts interactions with out-group members (and vice versa). Whereas we focus on theoretical support from Bandura’s (1991) social cognitive theory, the results related to intergroup inverse behaviors provide initial insights into deeper intergroup processes that might shape moral behavior, as argued in social identity theory and in related social psychology research (Rees et al., 2015).

Although the current findings provide partial evidence that prosocial ingroup behaviors are positively associated with antisocial outgroup behaviors in sport, they align with arguments that situational or developmental characteristics shape this association. Social psychology research specifically indicates that individuals do not invariably treat out-group members with hostility (Sherif et al., 1961). Rather, Everett, Faber, and Crockett (2015) highlighted that a positive link from in-group positivity to out-group hostility only emerges under specific conditions of competition, wherein the in-group can only succeed if the out-group is unsuccessful. For example, Halevy, Weisel, and Bornstein (2012) identified that individuals undermine out-group members’ efforts when the groups are placed in direct competition (i.e., when only one group can “win”) but readily support opponents so long as it does not disadvantage the in-group.

Inconsistency in the association between ingroup and out-group behavior is particularly evident when considering factors that may moderate the association between social identity and behavior (Nezlek & Smith, 2005). With regard to the current moderation results involving age, even though children as young as 5 years old distinguish between in- and out-groups and form social identities similarly to older adolescents (Bennett & Sani, 2008), norms for out-group behaviors may take years or even decades to become firmly entrenched. As an example, researchers revealed that younger children feel more guilt when watching an in-group member (rather than an out-group member) break another’s valued possession when compared with older children and tried harder to get the in-group member to apologize (Over, Vaish, & Tomasello, 2016). This literature demonstrates that intergroup processes may drive sport behaviors as predicted using social identity theory, but perhaps only in certain situations (e.g., norms that dictate competing behaviors toward in-group and out-group) or among certain individuals (i.e., older athletes when group prestige is tied to individual self-esteem; Tajfel & Turner, 1979).

Aside from theoretical perspectives, we also speculate that variation seen in the current associations may be due to substantial interindividual differences in athletes. Specifically, individuals with a strong social dominance or competitive orientation (i.e., desire for one’s
group to acquire status) are more likely to treat out-groups antisocially (Maxwell-Smith et al., 2016; Nezlek & Smith, 2005). In other words, it is not competition that promotes antisocial behavior but perhaps individual orientations toward competition. This perspective is mirrored in existing sport research that considers how personal orientations or interdependence structures foster or thwart cooperative actions (Evans & Eys, 2015; Harenberg, Riemer, Karreman, & Dorsch, 2016).

Limitations and Considerations

Despite the benefits of meta-analysis (i.e., increased power, improved effect size estimates, and moderator analyses explaining variation between studies; Schmidt & Hunter, 2014), several limitations to the current review and to the moral behavior evidence base must be addressed. First, because the current body of literature is largely limited to correlational and cross-sectional studies, claims of causality and directionality cannot be implied from the findings of the present review. It is also prudent to consider that these cross-sectional data are constrained to only analyzing trait-level between-person covariance in these behaviors. To better understand these associations, future work could explore within-person covariation through intensive longitudinal analyses. For example, Benson and Bruner (2018) used a daily diary approach to reveal that athletes report increased prosocial (or antisocial) behavior with teammates on days that they experience more prosocial (or antisocial) behavior from teammates, respectively, demonstrating the value in capturing within-person variance. Additionally, because the data analyzed in the current review involved similar self-report items within each moral dimension, some variance may be due to common-method variance (i.e., variance attributable to the measurement method rather than to the constructs the measures represent; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). As an example, the PABSS instrument incorporates similar verbal or physically aggressive behaviors in both the teammate and opponent items. Alternative modes of collecting data (e.g., observation or reporting from peers) may thus be essential to further test these associations.

We also acknowledge that the current meta-analyses were somewhat limited in scope. Given that researchers in this field gave very little consideration to intergroup domains prior to the development of the PABSS (Kavussanu & Boardley, 2009), we constrained our search to studies published since 2009, which is more of a reflection on the field rather than a critique of the present review. Furthermore, the present review did not focus on the association between intrateam behavior (e.g., how prosocial behavior toward teammates relates to antisocial behavior toward teammates), but given the importance of the group environment (Bruner et al., 2017), this work is of great interest to be examined in a future review.

It is also prudent to consider that moderation analyses in meta-analytic studies are exploratory in nature and should be interpreted cautiously (Song, Sheldon, Sutton, Abrams, & Jones, 2001). Due to statistical constraints, we focused on age as a moderator in this review as opposed to experience—even though both may play a meaningful role (Kavussanu et al., 2006). This decision was made because age and experience are at risk of multicollinearity and may confound regressions (Steel & Kammeyer-Mueller, 2002). Whereas it would seem appropriate to use multiple metaregression for correlated moderators, Schmidt and Hunter (2014) caution against this technique, as it leads to inflated multiple Rs and requires a minimum of 50 studies. It may also be valuable for future studies to report and analyze additional moderators that were not included in this review because of inconsistent or incomplete reporting. Competition level, athletes’ length of tenure with current team, and sport type (e.g., physical contact) each hold potential to moderate intergroup correlations of moral behaviors because prior research demonstrates their associations with moral behavior and perceptions of team membership (Kavussanu et al., 2006).

An additional limitation to meta-analyses is that not all theoretically important moderators are feasibly tested. In addition to age, we tested whether sample gender or study quality explained any heterogeneity in the four associations. Although gender effects have been found in prior work (Kavussanu et al., 2006), sample gender distribution did not moderate associations. This finding likely reflects that most of the included studies had relatively even gender distributions, meaning that heterogeneity explained by sample gender would be hard to
detect. Overall, study quality did not meaningfully moderate any of the associations.

Implications and Conclusion

Perhaps the most direct implications from this review are those derived by considering the quality of studies that comprise the body of evidence in sport morality literature. A common theme was that many studies inappropriately used the PABSS to study athlete groups that the scale was not designed for or validated to be used with (e.g., volleyball). These concerns could be overcome by adapting items to apply in a broader set of sport settings, by constraining study samples or by accounting for various sport types in analyses. Another theme that arose was that researchers sampled athletes from across developmental stages without addressing or controlling for age. Considering the influence of age revealed in this review, researchers studying sport behavior should factor-in anticipated age differences. Nevertheless, we note that on the whole, the rigor and quality of work across this subfield is quite high.

Advancing from this theoretical foundation toward practical recommendations, these findings inform strategies to promote prosocial sport behavior, as well as those aimed at reducing antisocial behavior. Applying group dynamics theory alongside associations in the adult samples from this review, there may be some concern that interventions that promote ingroup affiliations (i.e., team-building) may support antisocial behaviors toward opponents. As such, efforts to promote in-group relationships should align with related strategies to support more prosocial and less antisocial behavior with out-groups. For example, Kavussanu (2008) argues that coaches should focus on strengthening task orientations and mastery climates to promote prosocial behavior while also working toward tempering ego orientations and performance climates to reduce antisocial behavior. As another example, with the popularity of recommendations to strengthen social identities to enhance sport group experiences (Bruner et al., 2014), it may also be important to address the content of those social identities by incorporating positive out-group behaviors as part of group norms.

In closing, this study provided the first meta-analytic review of intergroup moral sport behavior, finding that behavior directed toward teammates is indeed associated with behavior directed toward opponents. By demonstrating the role of intergroup processes in athletes’ moral sport behavior and critically assessing the quality of work done within this field, our review also illustrates ways that future work can continue to advance our understanding of moral behavior in sport. Whereas the current body of literature is predominantly constrained to the between-person level of study, future work can improve our understanding in this area by using methodologies that enable researchers to explore within-person variance in moral behavior. We particularly encourage researchers to build on the findings from the current meta-analyses by purposefully applying theories like social identity theory to reveal the varying ways that intergroup processes do (and do not) influence the associations between intergroup moral behaviors.

References

References marked with an asterisk indicate studies included in the meta-analysis.

Bennett, M., & Sani, F. (2008). Social identities in childhood: When does the group become a part of...


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