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When Teammates Are Viewed as Rivals: A Cross-National Investigation of Achievement Goals and Intrateam Moral Behavior

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This research aimed to (a) determine whether mastery and intrateam performance achievement goals predicted prosocial and antisocial teammate behavior, (b) explore whether effects of intrateam performance goals were mediated by moral disengagement, and (c) examine whether any effects (Study 2 only) were moderated by cohesion. In Study 1, team athletes ($N = 282$) from Australia completed questionnaires assessing the aforementioned variables. Structural equation modeling indicated that prosocial teammate behavior was positively predicted by mastery-approach goals, and negatively predicted by mastery- and intrateam performance-avoidance goals, whereas antisocial teammate behavior was positively predicted by intrateam performance-approach and -avoidance goals; these latter effects were mediated by moral disengagement. In Study 2, team athletes ($N = 452$) from the United Kingdom completed a measure of cohesion in addition to the Study 1 instruments; the analyses largely confirmed the Study 1 findings. However, the undesirable effect of mastery-avoidance goals on prosocial behavior seen in Study 1 was only apparent in Study 2 when individuals held strong perceptions of team cohesion. In sum, this investigation makes a novel contribution to the literature on team functioning in sport, being the first to explore how athletes' normative goals relative to their teammates might shape effective interaction processes.

Keywords: team sport, moral disengagement, cohesion, mediation, moderation, 2 x 2 model

The investigation of moral behavior in sport has become a popular area of research in recent years (e.g., Boardley & Kavussanu, 2009, 2010; Kavussanu & Boardley, 2009). One theory examined in a number of these studies is Nicholls's (1989) achievement goal theory, with investigation of the correlates of achievement goal orientations a particularly common research approach (e.g., Sage, Kavussanu, & Duda, 2006). Nicholls proposed that people predominantly engage in achievement

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contexts to demonstrate competence. Further, he articulated two ways in which competence can be defined by individuals, which he termed *goal orientations*. First, an ego or performance orientation (for consistency we use “performance” throughout) refers to the tendency to define success and evaluate competence using other-referenced criteria. Thus, highly performance-oriented athletes tend to feel successful when they outperform others. In contrast, a task or mastery orientation (we use “mastery” throughout) reflects the tendency to define success and evaluate competence using self- or task-referenced criteria. As a result, highly mastery-oriented athletes tend to feel successful when they master tasks, learn something new, or improve their skill levels.

With respect to implications for moral behavior, Nicholls (1989) suggested that individuals high in performance orientation are less likely to be concerned about justice and fairness because of the emphasis they place upon winning. Conversely, athletes high in mastery orientation may strive for fairer competition (e.g., Duda, Olson, & Templin, 1991) because engaging in rule-breaking activities may invalidate one’s judgments regarding self-referenced competence. To date, research has largely supported these propositions, with performance goals being positively associated with undesirable sport behavior (e.g., deliberately fouling an opponent) and mastery goals being positively linked with desirable conduct (e.g., encouraging a teammate; see Kavussanu & Boardley, 2009).

Building on Nicholls’s (1989) original work, as well as a wealth of achievement goal research in sport (see Elliot & Conroy, 2005) and education (see Covington, 2000), Elliot (1999) outlined a refinement of achievement goal theory. Specifically, he theorized that it is not only whether competence is other- or self-referenced that is critical in gauging success, but also that the valence of goals is important. In particular, he asserted that mastery and performance goals are positively (or “approach”) valenced when one strives to demonstrate competence, and are negatively (or “avoidance”) valenced when one attempts to avoid demonstrating incompetence. Thus, the refined 2×2 framework incorporated the following goals: mastery-approach (MAp; a focus on attaining intrapersonal competence, for example, performing as well as or better than one’s previous performances), performance-approach (PAp; a focus on attaining normative competence, for instance, performing better than those around you), mastery-avoidance (MAv; a focus on avoiding intrapersonal incompetence, such as not performing badly compared with previous performances), and performance-avoidance (PAv; a focus on avoiding normative incompetence, for example not performing badly compared with those around you).

To date, only two studies have applied Elliot’s (1999) framework to morality in sport. First, Corrion et al. (2010) investigated the extent to which the 2×2 constructs predicted students’ judgments of cheating acceptability in physical education. Findings showed that PAp and PAv goals (i.e., those who sought to outperform, or avoid being outperformed by their classmates) positively predicted judgments of cheating acceptability, whereas MAp and MAv goals were negative predictors of such judgments. More recently, Barkoukis, Lazuras, Tsorbatzoudis, and Rodafinos (2011) also used the framework to study the motivational profiles of elite athletes in relation to doping behavior. Cluster analyses revealed that athletes who scored high on MAp and MAv goals and low on PAp and PAv goals had significantly lower scores on past doping and intentions for future doping compared with those who scored either high on all four goals, or high on approach goals but low on avoid-

ance goals. Thus, MAP and MAV goals have been associated with positive moral functioning and PAp and PAV goals with negative moral functioning.

Taken together, the limited sport morality research utilizing the 2×2 framework has shown no distinction in predictive ability based upon goal valence. However, this may be due to the outcome variables investigated in research to date. More specifically, the studies of Corrion et al. (2010) and Barkoukis et al. (2011) investigated cheating justifiability and doping intentions, respectively. As such, consistent with the majority of research on sport morality, the dependent variables in these studies were focused on behaviors likely to result in undesirable consequences for opponents (i.e., interteam issues) rather than their teammates (i.e., intrateam functioning). However, recent research investigating the dimensionality of moral behavior in sport has demonstrated evidence of prosocial and antisocial behaviors that specifically target teammates (Kavussanu & Boardley, 2009). Prosocial behavior reflects voluntary acts intended to help or benefit another person (Eisenberg & Fabes, 1998), and examples of prosocial teammate behaviors are encouraging or providing positive feedback to a teammate. In contrast, antisocial behavior refers to voluntary acts intended to harm or disadvantage another individual (Sage et al., 2006), and examples of antisocial teammate behaviors are criticizing or verbally abusing a teammate. Investigating the effects of achievement goals on antisocial teammate behavior, Boardley and Kavussanu (2010) showed that a performance goal orientation positively predicted antisocial teammate behavior, whereas a mastery goal orientation had no effect on antisocial teammate behavior in UK soccer players. That said, this investigation did not account for the valence of athletes' achievement goals, or their prosocial teammate behavior, and as a result it is not yet clear whether approach and avoidance motivations differentially predict moral behavior toward one's teammates.

Consistent with sport morality research, the existing achievement goal literature has somewhat overlooked the specific existence and correlates of *intrateam performance goals*. That is, extant measures of performance goals typically use reference groups such as other people/opponents (Roberts, Treasure, & Balague, 1998), friends/others (Duda & Nicholls, 1992), or others/other performers/everyone else (Conroy, Elliot, & Hofer, 2003). Nonetheless, in interdependent contexts, it is possible that athletes may make normative comparisons not only with respect to their opponents, but also specifically in relation to their teammates, as they strive to maintain or enhance their status on the team (e.g., "I want to be the best player on our team"). At present, researchers have yet to explore the extent to which athletes explicitly adopt intrateam performance goals, or the potential for these constructs to exert deleterious effects upon team functioning. With respect to moral behavior for instance, it has been suggested (see Harwood & Beauchamp, 2007; Jackson, Harwood, & Grove, 2010) that athletes who strive to outperform (or avoid being outperformed by) their teammates may engage in more frequent negative communication (i.e., antisocial behavior) and less frequent encouragement (i.e., prosocial behavior) toward teammates. However, this possibility has not been tested to date and remains to be empirically explored.

The overarching purpose of this investigation was to examine the extent to which athletes' mastery and intrateam performance goals predicted their prosocial and antisocial behavior toward their teammates. That said, as well as investigating achievement goals as direct predictors of intrateam moral behaviors, it is also important to consider potential mediating variables. Theory (Bandura, 1991) and recent

research (Boardley & Kavussanu, 2010; Hodge & Lonsdale, 2011) indicate that one such potential mediator in the prediction of antisocial conduct is moral disengagement. Moral disengagement reflects one's conditional endorsement of transgressive behavior through the use of any of eight psychosocial mechanisms that minimize negative emotional reactions (e.g., guilt, shame) when transgressing. These mechanisms operate by cognitively reconstruing harmful acts into benign ones (moral justification, euphemistic labeling, and advantageous comparison), minimizing personal accountability for harmful acts (diffusion or displacement of responsibility), misrepresenting the injurious effects of transgressive conduct (distortion of consequences), or blaming the character or actions of the victim (dehumanization and attribution of blame). Although antisocial behavior toward teammates should result in negative emotions (e.g., guilt, shame) that should reduce motivation for such conduct in future, moral disengagement may allow athletes to act antisocially toward teammates without experiencing such adverse reactions (see Bandura, 1991). Thus, it is possible that athletes who judge their competence with reference to their teammates (i.e., hold high intrateam performance goals) may engage in more frequent antisocial behavior toward those individuals via a heightened level of moral disengagement (i.e., a mediating effect on the intrateam goal-antisocial behavior relationship). Consistent with this suggestion, Boardley and Kavussanu (2010) found that moral disengagement partially mediated the effects of performance orientation on antisocial teammate behavior in British soccer players. However, to date no study has investigated moral disengagement as a mediator of the effects of *intrateam* PAp or PAv goals on moral behavior.

The aims of the current manuscript were addressed through two studies. Study 1 was designed to examine the role of mastery and intrateam performance goals as predictors of prosocial and antisocial teammate behavior. Hypotheses were formulated based on theory and/or past research. First, MAp goals were expected to positively predict prosocial teammate behavior, as mastery orientations have previously been linked with such goals (e.g., Kavussanu & Boardley, 2009). Second, we forecasted that MAV goals would have a negative effect on prosocial teammate behavior. As the formation of MAV goals has been associated with detrimental cognitions (e.g., fear of failure, perfectionistic concerns, low competence beliefs; see Moller & Elliot, 2006) that may consume the thoughts of athletes concerned with avoiding poor individual performance, it is possible that such athletes may engage in less frequent prosocial teammate behavior because their attention is directed solely toward their own performance and not that of others. Third, we hypothesized that athletes who strive to outperform their teammates (i.e., high intrateam PAp goals) or to avoid demonstrating incompetence in comparison with their teammates (i.e., high intrateam PAv goals) would display greater antisocial behavior toward other team members, based upon positive associations between general performance goals and antisocial teammate behavior (Boardley & Kavussanu, 2010). In light of existing mediational findings, we forecasted that the effect of PAp and PAv on antisocial behavior would, at least in part, be mediated by moral disengagement. Finally, we hypothesized that intrateam PAp and PAv goals would negatively predict prosocial teammate behavior, insofar as athletes who judge their competence in relation to their teammates may limit the frequency with which they perform behaviors (e.g., encouragement, positive feedback) that may facilitate their teammates' performance.

Study 1

Method

Participants

Participants were male ($n = 155$) and female ($n = 127$) athletes competing in soccer ($n = 100$), netball ($n = 25$), hockey ($n = 62$), rugby ($n = 60$), or basketball ($n = 35$) in the Perth metropolitan region of Western Australia. Athletes ranged in age from 16 to 29 years ($M = 19.6$, $SD = 2.7$), had played their main sport competitively for an average of 5.4 years ($SD = 3.8$), and had played for their current team for 1.9 years ($SD = 1.6$). Participants were drawn from local- ($n = 45$), university- ($n = 133$), and regional-level ($n = 104$) competition.

Measures

Prosocial and Antisocial Behavior in Sport. The teammate subscales of the Prosocial and Antisocial Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009) were used to assess reported behaviors toward teammates. Players were presented with nine items describing sport behaviors and asked how often they had engaged in each behavior during the past 12 months on a scale anchored by 1 (*never*) and 5 (*very often*). There are two teammate subscales in the PABSS, with one measuring prosocial behavior (four items; e.g., encouraged a teammate) and another assessing antisocial behavior (five items; e.g., criticized a teammate). Kavussanu and Boardley (2009) provided evidence for the factorial, convergent, and concurrent validity, and the factorial invariance of the PABSS, and for the internal consistency of the prosocial ($\alpha = .74$) and antisocial teammate ($\alpha = .83$) subscales.

Moral Disengagement. The Moral Disengagement in Sport Scale–Short (MDSS-S; Boardley & Kavussanu, 2008) was used to assess athletes' moral disengagement. Athletes were asked to read a series of eight statements describing thoughts and feelings about competitive sport, and to indicate their level of agreement from 1 (*strongly disagree*) to 7 (*strongly agree*). An example item is, "Insults among players do not really hurt anyone." The MDSS-S has demonstrated good levels of internal consistency ($\alpha = .80$ – $.85$) and its factorial, convergent, and concurrent validity has been supported (Boardley & Kavussanu, 2008).

Mastery Achievement Goals. The mastery subscales of the Achievement Goal Questionnaire for Sport (AGQ-S; Conroy et al., 2003) were used to assess the degree to which participants endorsed M_AP and M_AV goals in their sport. The two goals were assessed by three items each, and example items are, "I want to perform as well as it is possible for me to perform" (M_AP), and "Sometimes I'm afraid that I may not perform as well as I'd like" (M_AV). Participants were asked to consider "their general experience in their sport during the previous 12 months," responding to each item using a 7-point scale ranging from 1 (*not at all like me*) to 7 (*completely like me*). Research has supported the factorial invariance, temporal stability, predictive validity, and internal consistency of AGQ-S measures (see Conroy, Kaye, & Coatsworth, 2006).

Intrateam Performance Goals. Athletes' intrateam PAp and PAv goals were each assessed using revised three-item subscales from the AGQ-S. Specifically, we retained all six items from the original AGQ-S subscales, but altered the referent so that all statements referred to normative judgments about one's "teammates" rather than generic statements about outperforming "others." Example items included, "It is important for me to perform better than my teammates" (intrateam PAp) and "My goal is to avoid performing worse than my teammates" (intrateam PAv). Participants responded on a 7-point scale ranging from 1 (*not at all like me*) to 7 (*completely like me*). This investigation represented the first attempt to assess performance goals explicitly in relation to one's teammates using the AGQ-S. However, previous research has documented acceptable structural and nomological properties for the original PAp and PAv subscales (e.g., Conroy et al., 2006). Psychometric analyses for the adapted measures are reported in the results section.

Procedure

After receiving ethical approval from the local ethics committee, head coaches of intact sports teams were contacted and asked for their athletes' participation in the study. Arrangements were then made with coaches who agreed to their athletes' participation. To collect data, research assistants distributed questionnaires to athletes either before or after a training session. Participants were informed that the study examined sport behaviors, that honesty in responses was vital, participation was voluntary, and responses would be used only for research purposes and would remain strictly confidential. Athletes signed an informed consent form before completing the questionnaire, which they completed with their main competitive sport in mind. Parental consent was obtained for all athletes under the age of 18.

Results

Data Screening, Descriptive Statistics, Scale Reliabilities, and Correlations

There were no missing data points in the 282 cases. Normality of all items and study variables was evidenced by skewness and kurtosis values of $<|2|$. Descriptive statistics, scale reliabilities, and correlations between primary variables are presented in Table 1. Internal reliability was estimated using the composite reliability coefficient (see Raykov, 1997), which is obtained using structural equation modeling (SEM). This coefficient was used in preference to the more commonly used Cronbach's alpha coefficient because the latter has been shown to be a lower bound to the reliability of a scale and therefore can often underestimate scale reliability. As can be seen in Table 1, the scales demonstrated good-to-excellent levels of reliability, with all values well above the generally accepted criterion of .70. A number of significant correlations were observed. Most notably, MAp goals aligned positively with prosocial behavior toward teammates, whereas MAV goals were negatively associated with prosocial behavior. Intrateam PAp and PAv goals were positively correlated with one another, as well as with moral disengagement and antisocial behavior, and negatively linked with prosocial teammate behavior. Finally, high moral disengagement aligned with increased antisocial behavior, and decreased prosocial behavior.

Table 1 Descriptive Statistics, Scale Reliabilities, and Correlations for Australian (N = 282) and U.K. (N = 451) Samples

Variable	M	SD	Range	1	2	3	4	5	6	7	8
Australian Sample (Study 1)											
1 Mastery Approach	6.17	0.84	3.00–7.00	(.93)							
2 Mastery Avoidance	5.32	1.46	1.00–7.00	.20**	(.96)						
3 Performance Approach	4.48	1.59	1.00–7.00	.18**	.07	(.93)					
4 Performance Avoidance	4.06	1.80	1.00–7.00	-.02	.16**	.63**	(.97)				
5 Moral Disengagement	3.00	1.16	1.00–6.38	-.01	.02	.33**	.29**	(.94)			
6 Prosocial Behavior	3.92	0.60	2.25–5.00	.30**	-.14*	-.20**	-.42**	-.14*	(.85)		
7 Antisocial Behavior	1.92	0.76	1.00–4.60	-.01	.03	.47**	.38**	.55**	-.19**	(.90)	
U.K. Sample (Study 2)											
1 Mastery Approach	6.18	0.81	2.67–7.00	(.90)							
2 Mastery Avoidance	4.79	1.55	1.00–7.00	.29**	(.96)						
3 Performance Approach	4.14	1.54	1.00–7.00	.19**	.25**	(.95)					
4 Performance Avoidance	3.81	1.70	1.00–7.00	.04	.21**	.61**	(.96)				
5 Moral Disengagement	3.02	1.14	1.00–6.00	-.02	-.00	.35**	.30**	(.87)			
6 Prosocial Behavior	4.17	0.56	2.00–5.00	.23**	.06	-.16**	-.18*	-.16**	(.84)		
7 Antisocial Behavior	2.06	0.70	1.00–5.00	-.02	.09	.34**	.24**	.41**	-.07	(.82)	
8 Cohesion	5.95	1.14	1.89–8.89	.10*	-.22**	-.11*	-.13**	.15**	.04	-.07	(.87)

Note. Composite reliability coefficients are presented on the diagonal. Possible scale ranges: 1–7 for achievement goals and moral disengagement; 1–5 for prosocial and antisocial behavior; 1–9 for cohesion. Composite reliability coefficients calculated using items in final structural models.

* $p < .05$; ** $p < .01$.

Structural Equation Modeling

To examine the predictive effects of achievement goals on prosocial and antisocial behaviors toward teammates, and to determine whether such effects were mediated by moral disengagement, SEM was employed using the approach recommended by Anderson and Gerbing (1988). All SEM analyses were conducted using the EQS 6.1 statistical package (Bentler & Wu, 2002). The robust maximum likelihood estimation method was employed as initial analyses produced high normalized estimates of Mardia's coefficient, indicating deviation from multivariate normality. Regarding model fit, the use of fixed cutoff points to determine fit has become a contentious issue. In line with experts who still propose that the inclusion of certain fit indices is warranted (Bentler, 2007), we have provided a range of fit indices to assess model fit: the Satorra–Bentler chi-square (χ^2), the robust comparative fit index (CFI), the standardized root mean square residual (SRMR), and the robust root mean square error of approximation (RMSEA). To account for the relatively large model for the sample size, we applied Swain's (1975) correction to all fit indices with the exception of SRMR (see Herzog, Boomsma, & Reinecke, 2007).

Measurement Model

The first step in Anderson and Gerbing's (1988) approach involves testing the measurement model, that is, the posited relationships of the observed variables to their underlying (i.e., latent) constructs, with the constructs allowed to intercorrelate. The data were a reasonable but not satisfactory fit for a model consisting of all items ($N = 29$) assessing the four achievement goals, moral disengagement, and prosocial and antisocial behavior toward teammates, $\chi^2(356) = 565.17$, $p < .001$; CFI = .953; RMSEA = .046; SRMR = .053. Thus, to reduce the complexity of the model and ensure that only the best indicators were used in structural model testing, we removed items that had relatively weak factor loadings, contributed to relatively large standardized residuals, or loaded onto a second factor as indicated by the Lagrange multiplier (LM) test. This process resulted in the removal of six items: three from the MDSS, two from the antisocial subscale and one from the prosocial subscale. In addition, the LM test indicated that one intrateam PAp item was cross-loading onto the intrateam PAv factor, so this item was replaced with the equivalent PAp item from Conroy et al.'s (2003) original scale. Subsequent testing of a measurement model containing the remaining 23 items resulted in an excellent model fit, $\chi^2(206) = 211.77$, $p = .38$; CFI = .998; RMSEA = .010; SRMR = .042. Factor loadings ranged from .60 to .95. This model included three correlated errors (indicated by the LM test) reflecting redundant item content not accounted for by the latent factor (e.g., PAv1: "I just want to avoid performing worse than my teammates" and PAv3: "It is important for me to avoid being the worst performer in my team"). Specification of correlated errors is appropriate in such circumstances (Kline, 2011).

Structural Model

The next step involves testing the hypothesized structural pathways. Accordingly, we examined a model where MAp, MAV, intrateam PAp, and intrateam

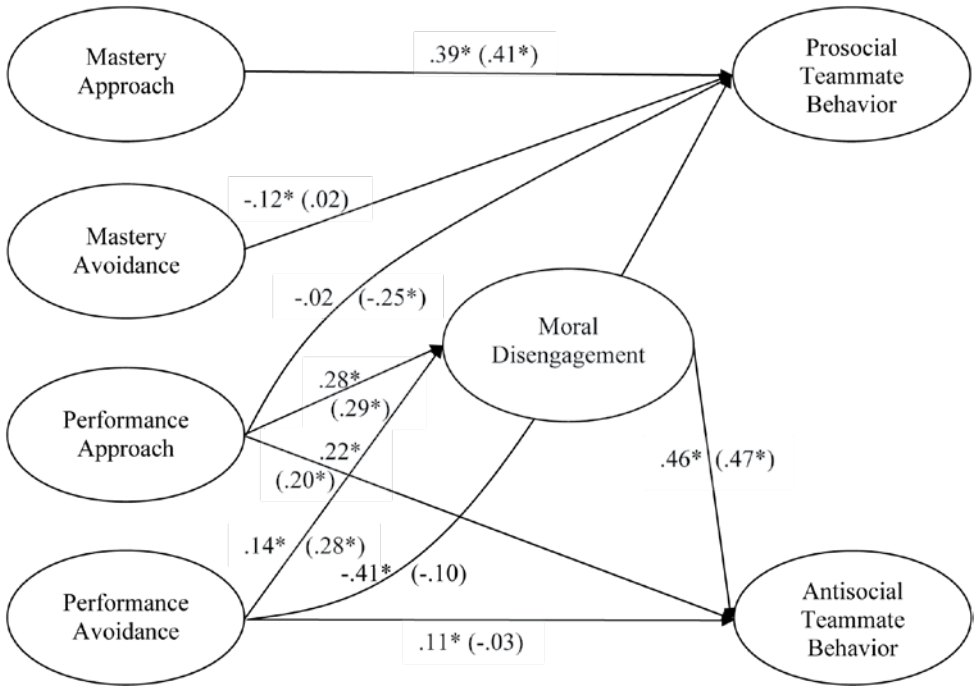


Figure 1 — Structural mediation model. β -values for Study 1 are presented outside parentheses; estimates in parentheses reflect those that were obtained when specifying a model with identical structural paths in Study 2 (i.e., without moderation analyses). These estimates are presented for informational purposes, to enable direct comparison between Study 1 and Study 2 models. Estimates for the final Study 2 model (i.e., including moderation variables) are presented in Figure 2. * $p < .05$.

PAv goals predicted prosocial teammate behavior, and intrateam PAP and PAV goals predicted antisocial teammate behavior both directly and indirectly via moral disengagement. The data displayed an excellent fit for the model, $\chi^2(212) = 219.45, p = .35$; CFI = .998; RMSEA = .011; SRMR = .047. As shown by the standardized coefficients (see Figure 1), MAp goals positively predicted prosocial teammate behavior, MAv goals negatively predicted prosocial teammate behavior, intrateam PAP and PAV goals positively predicted moral disengagement and antisocial teammate behavior, and moral disengagement displayed a positive effect on antisocial teammate behavior. The model accounted for 15% of the variance in moral disengagement, 35% of the variance in prosocial behavior, and 41% of the variance in antisocial behavior.

Mediation

To determine whether moral disengagement mediated an effect of intrateam PAP and PAV goals on antisocial behavior, we requested the decomposition of model

effects into direct, indirect, and total effects (Bollen, 1987). For intrateam PAP goals, the total, direct, and indirect effects on antisocial teammate behavior were .35 ($p < .05$), .22 ($p < .05$), and .13 ($p < .05$), respectively; the percentage of the total effect mediated by moral disengagement was 37%. For intrateam PAV goals, the total, direct, and indirect effects on antisocial teammate behavior were .18 ($p < .05$), .12 ($p > .05$), and .06 ($p > .05$), respectively; the percentage of the total effect mediated by moral disengagement was 33%.

To test the significance of mediation, we used the distribution of products test (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). This is an effective test of mediation that retains greater statistical power and maintains a more accurate Type 1 error rate in comparison with other mediation tests (see MacKinnon et al., 2002). The test involves converting the two parameter estimates that form the mediated relationship (i.e., the effect of the predictor variable on the mediator and the effect of the mediator on the outcome variable) into z -scores and comparing the product of these two z -scores against normative significance criteria. The mediated effects of moral disengagement between intrateam PAP ($z_{\alpha}z_{\beta} = 19.84, p < .01$) and intrateam PAV ($z_{\alpha}z_{\beta} = 9.92, p < .01$) goals and antisocial teammate behavior were significant, indicating that moral disengagement partially mediated effects of intrateam PAP and PAV goals on antisocial teammate behavior.

Study 2

In Study 2, we aimed to confirm the final model from Study 1, and to test whether athletes' perceptions of cohesion moderated the relationships between intrateam achievement goals and prosocial/antisocial teammate behavior. Cohesion is "a dynamic process that is reflected in the tendency of a group to stick together and remain united in the pursuit of its instrumental objectives" (Carron, Brawley, & Widmeyer, 1998, p. 213). Given the unifying properties associated with high levels of cohesion, it is possible that the effects of achievement goals on intrateam moral behavior may be less maladaptive when athletes feel that they are part of a united team. For example, despite striving to be the best player on their team, athletes with high PAP goals may not transgress against their teammates to such an extent when they feel a strong attraction to their team. In contrast, it is also possible that greater cohesion may enhance athletes' awareness of others' performance and therefore lead to greater rivalry, resulting in the effects of intrateam achievement goals being more maladaptive under conditions of high cohesion. Thus, due to the contrasting possibilities regarding the moderating effects of cohesion on the relationships between the four achievement goals and prosocial and antisocial behavior, as well as the lack of guiding empirical evidence, we did not form hypotheses for these effects. Although cohesion has task and social dimensions relevant to both individual attractions to the group and group integration (see Carron, Widmeyer, & Brawley, 1985), we focused our moderator analyses only on athletes' perceptions of individual attractions to the group. This ensured that our predictor (i.e., achievement goals) and moderator (i.e., individual attractions to the group) variables were centered on intraindividual perceptions.

Method

Participants

Participants were male ($n = 258$) and female ($n = 194$) athletes competing in soccer ($n = 172$), netball ($n = 32$), hockey ($n = 46$), rugby ($n = 97$), basketball ($n = 62$), cricket ($n = 36$), lacrosse ($n = 3$), ice hockey ($n = 1$), American football ($n = 2$), and water polo ($n = 1$) in the West Midlands region of the U.K. At the time of data collection, athletes ranged in age from 16 to 48 years ($M = 21.1$, $SD = 3.6$), had played their main sport competitively for an average of 10.0 years ($SD = 4.9$), and had played for their current team for 2.7 years ($SD = 2.8$) on average. The competitive levels represented were local ($n = 213$), university ($n = 185$), regional ($n = 25$), national ($n = 17$), and international ($n = 12$).

Measures

Prosocial and Antisocial Behavior, Moral Disengagement, and Achievement Goals. These variables were assessed using the same instruments as in Study 1.

Cohesion. The Group Environment Questionnaire (GEQ; Carron et al., 1985) was used to assess perceptions of cohesion. The GEQ is an 18-item instrument that assesses four dimensions of cohesion. However, in this study we only used the individual attractions to the group task (four items examining individual's feelings about his/her personal involvement with the group's task, goals and productivity; e.g., "I like the style of play on this team") and -social (five items assessing the individual's feeling about his/her acceptance and social interaction with the group; e.g., "Some of my best friends are on this team") subscales. Items were measured on a 9-point scale anchored by 1 (*strongly disagree*) and 9 (*strongly agree*) and negatively worded items were reverse scored before data analysis. Studies have supported the validity of measures derived from the GEQ across a variety of interdependent sporting contexts (see Carron et al., 1998).

Procedure

The procedure was identical to that followed in Study 1.

Results

Data Screening, Descriptive Statistics, Scale Reliabilities, and Correlations

Seven data points (.03%) were missing and 5 out of 452 cases (1.1%) had missing data. Missing data were deleted listwise given the sample size was quite large, only a small percentage of participants had missing data, and there were no systematic patterns in the missing data (Bentler & Wu, 2002). Listwise deletion resulted in a usable sample of 447 athletes. Skewness and kurtosis values of $<|2|$ indicated normality for all variables. Descriptive statistics, reliability coefficients, and correlations are presented in Table 1. As can be seen in Table 1, the scales again demonstrated good-to-excellent levels of reliability. There were a number

of notable relationships in the correlation matrix. MAP goals had a moderate positive relationship with MAV goals, and MAV goals had weak-to-moderate positive relationships with both intrateam performance goals. In line with Study 1, athletes who reported a strong desire to outperform their teammates (intrateam PAp) also scored highly on striving to avoid being outperformed by their teammates (intrateam PAv). Moreover, high intrateam PAp and PAv goals aligned with lower prosocial behavior, and greater antisocial behavior and moral disengagement.

Structural Equation Modeling

Measurement and Study 1 Structural Models. Specifying the measurement model from Study 1 without any correlated errors, the data displayed reasonable but unsatisfactory fit, $\chi^2(209) = 330.14$ ($p < .001$); CFI = .973; RMSEA = .036; SRMR = .050. However, respecification of the model with five conceptually supported correlated errors as indicated by the LM test resulted in excellent fit, $\chi^2(204) = 230.17$ ($p = .101$); CFI = .994; RMSEA = .017; SRMR = .036. Factor loadings ranged from .52 to .96. The correlated errors specified again reflected redundant item content (e.g., MAP1: “It is important for me to perform as well as I possibly can” and MAP2: “I want to perform as well as it is possible for me to perform”). Testing the hypothesized structural model with these data also resulted in excellent fit, $\chi^2(210) = 240.99$ ($p = .070$); CFI = .993; RMSEA = .018; SRMR = .042. The model accounted for 26% of the variance in moral disengagement, 21% of the variance in prosocial teammate behavior, and 33% of the variance in antisocial teammate behavior (see Figure 1).

Mediation and Moderation. To determine whether any of the relationships in the final structural model were moderated by cohesion, we tested four models that incorporated interaction terms for the four possible Goal \times Cohesion interactions. The interaction terms for these models were generated using the residual centering approach. Creating orthogonalized indicators for a latent interaction construct using the residual centering approach involves a two-stage process (see Little, Bovaird, & Widaman, 2006). First, each possible product term from the two sets of indicators for the two latent constructs involved in the interaction term are formed. In the current study, three indicators of individual attraction to the group task- (two items) and social- (one item) cohesion were multiplied with the three indicators of each goal to create nine product terms for each Goal \times Cohesion interaction construct. Three cohesion items were selected from the nine available because the residual centering approach becomes unwieldy and computationally complex when multiple indicators are used. The three cohesion items were selected based on the magnitude of their factor loadings on their parent factor; the three items selected had the largest loadings. Second, each uncentered product term is then individually regressed onto the first-order effect indicators of the latent constructs, with the residuals of each analysis being saved. Presently, this was done for each of the nine product terms using the three indicators for each goal as well as the three cohesion items. The residuals that result from the second stage analyses are then used as indicators of the latent interaction construct. This process resulted in nine indicators for each of the four Goal \times Cohesion constructs, which were then used in the analyses that follow.

Four structural models were tested to determine whether cohesion moderated any of the effects of the four goals on the two types of behavior. These models included all paths from the mediation-only models tested in Studies 1 and 2, as well as paths from cohesion and the Goal \times Cohesion interaction term to moral disengagement and the two behaviors. Without guiding empirical evidence to the contrary, paths from the interaction terms to moral disengagement and antisocial behavior were included in the models tested to investigate all possible interaction effects. During specification, we accounted for two specific features of models using indicators resulting from residual centering (see Little et al., 2006). First, correlated errors were specified for item pairs that shared a common component in their product term to account for resultant unique variance among some of the nine indicators. Second, the latent interaction term was not allowed to correlate with the main effect latent variables. Of the four models tested, the only one that resulted in significant interaction effects was the model incorporating the MAV \times Cohesion interaction term (see Figure 2). This model demonstrated acceptable fit

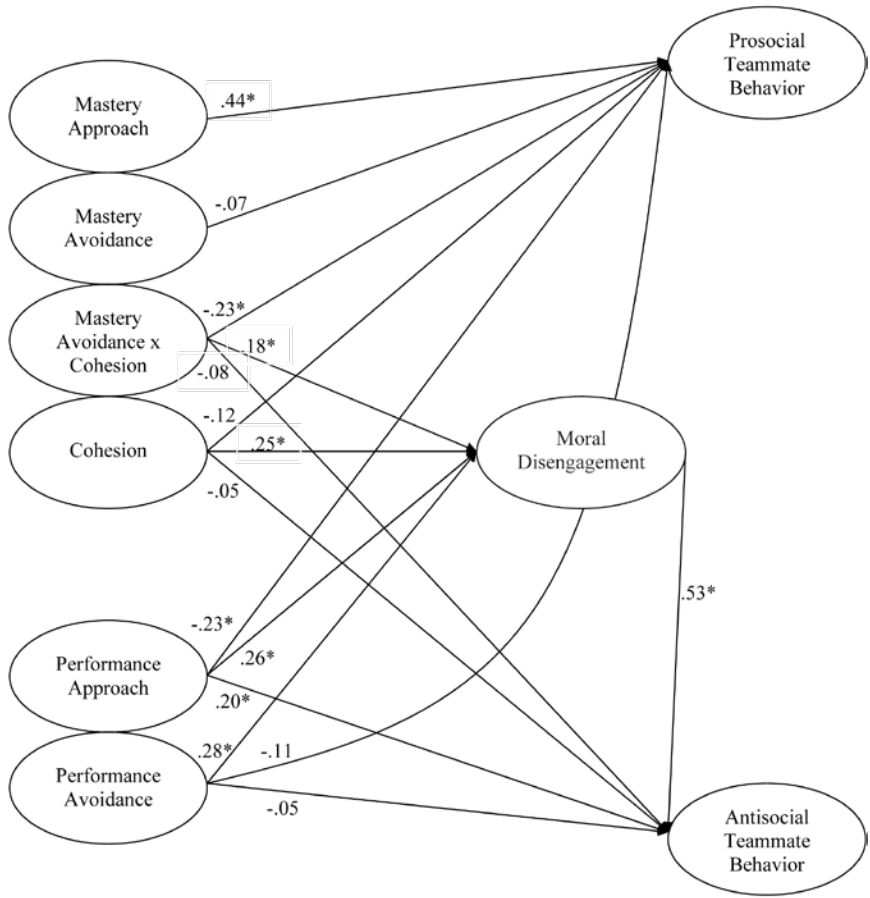


Figure 2 — Study 2 structural mediation / moderation model. *Significant at .05 level.

to the data, $\chi^2(511) = 606.29$ ($p = .002$), CFI = 0.995, RMSEA = .020, SRMR = .052, and showed that MAV had a negative effect on prosocial teammate behavior, but only when high levels of cohesion were present. Similarly, MAV had a positive effect on moral disengagement, but again only at higher levels of cohesion. In addition, comparing common pathways in this model to those from Figure 1 shows that model predictions were largely consistent with those from Study 1. Some differences were apparent though, as MAV and intrateam PAv goals no longer predicted prosocial and antisocial behavior, respectively, and intrateam PAp goals now negatively predicted prosocial behavior. The model accounted for 35% of the variance in moral disengagement, 29% of the variance in prosocial teammate behavior and 35% of the variance in antisocial teammate behavior.

The significant interaction effect was then further investigated using simple slopes analyses. Although accepted practices for simple slopes probing of latent interactions using residual centering do not currently exist, coefficients derived using this technique can be probed using traditional (i.e., regression-based) methods to obtain reasonable but not entirely precise estimates (T. Little, personal communication, January 18, 2012). Thus, using the unstandardized regression coefficients for the independent (i.e., MAV), moderator (cohesion), and interaction (MAV \times Cohesion) variables we conducted simple slopes analyses using the established ± 1 SD method. This illustrated (see Figure 3) that the highest levels of prosocial behavior were observed when individuals held high MAV goals and low levels of individual attractions to the group, whereas the lowest levels of prosocial behavior were seen when similar levels of MAV were combined with high levels of individual attractions to the group.

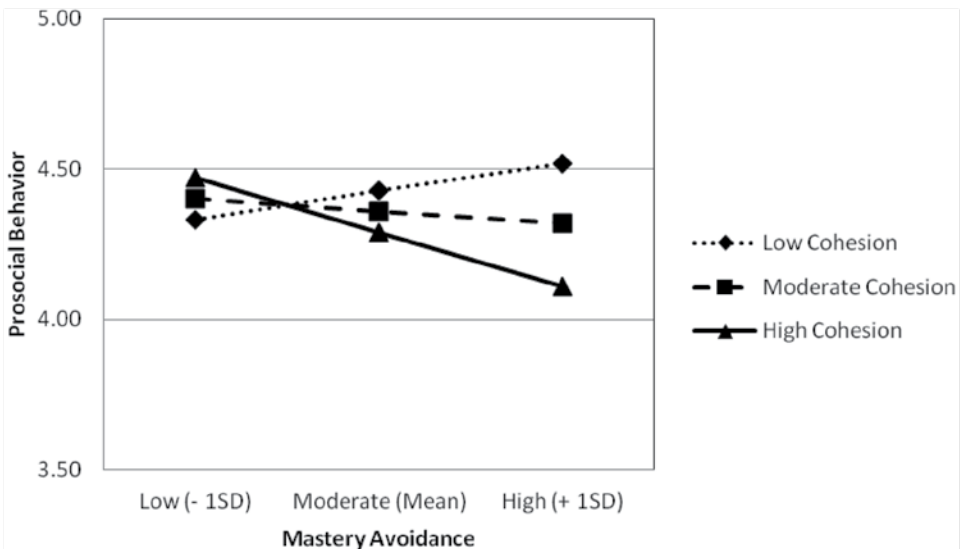


Figure 3— Simple slopes analysis for the moderating effect of cohesion on the relationship between mastery avoidance and prosocial behavior for high (i.e., +1 SD), moderate (i.e., mean), and low (i.e., -1 SD) cohesion. Low, moderate, and high mastery avoidance values were derived using -1 SD, mean, and +1 SD, respectively.

In addition to the moderation effects observed, the effects of $MAv \times$ cohesion, cohesion, PAv, and PAv on antisocial behavior were all potentially mediated by moral disengagement (see Figure 2). To assess these possible effects we again requested the decomposition of model effects into direct, indirect, and total effects (Bollen, 1987). For $MAv \times$ Cohesion the total, direct, and indirect estimates were .01 ($p > .05$), $-.09$ ($p > .05$), and .10 ($p > .05$), respectively. For cohesion the total, direct, and indirect estimates were .08 ($p > .05$), $-.05$ ($p > .05$), and .13 ($p < .05$), respectively. For intrateam PAv goals the total, direct, and indirect estimates were .34 ($p < .05$), .20 ($p < .05$), and .14 ($p < .05$), respectively; the percentage of the total effect mediated by moral disengagement was 41%. Finally, for intrateam PAv goals the total, direct, and indirect estimates were .10 ($p > .05$), $-.05$ ($p > .05$), and .15 ($p < .05$), respectively. As three of these mediated effects (i.e., $MAv \times$ Cohesion, cohesion, and PAv) were opposite in direction to their respective direct effect, it was not possible to calculate the percentage of the total effect mediated by moral disengagement in these cases. The mediated effects were significant for $MAv \times$ Cohesion ($z_{\alpha z_{\beta}} = 8.16$, $p < .01$), cohesion ($z_{\alpha z_{\beta}} = 13.82$, $p < .01$), and intrateam PAv ($z_{\alpha z_{\beta}} = 11.28$, $p < .01$), and intrateam PAv ($z_{\alpha z_{\beta}} = 11.89$, $p < .01$) goals. These results indicate that moral disengagement partially (intrateam PAv) or fully ($MAv \times$ Cohesion, cohesion, intrateam PAv) mediated the effects of these variables on antisocial behavior. For $MAv \times$ Cohesion, this represents mediated moderation, as moral disengagement mediated the effect of $MAv \times$ Cohesion on antisocial behavior.

Overall Discussion

In interdependent activities, aside from the technical and physical attributes that team members possess, the extent to which members are able to effectively coordinate their efforts and work together is crucial in shaping collective success. There is a wealth of empirical evidence that supports this notion, and researchers have displayed a longstanding interest in examining the psychosocial variables that promote effective group interaction. Although sustained research effort has positioned factors such as cohesion (Carron, Shapcott, & Burke, 2008), collective efficacy (Chow & Feltz, 2007), and personality traits (Beauchamp, Jackson, & Lavalley, 2008) at the forefront of group dynamics research, in the current study we aimed to examine two concepts that have received relatively limited attention in this area. With a cross-national cohort of team-sport athletes, we used Elliot's (1999) 2×2 framework to investigate the extent to which athletes' mastery and intrateam performance achievement goals aligned with prosocial and antisocial behavior toward their teammates. Further, in Study 2 we also investigated the extent to which players' perceptions of cohesion moderated the relationships between achievement goals and teammate-directed behavior.

Analyses revealed a number of noteworthy findings. First, in both studies athletes who judged their competence with reference to their teammates (i.e., high intrateam PAv and PAv goals) displayed increased antisocial behavior toward their teammates, either directly or indirectly via greater moral disengagement. Second, athletes across both samples engaged in more frequent prosocial behavior when they were focused on personal or task-referenced improvement (i.e., high MAp goal). Third, the Study 2 moderation analyses demonstrated that higher MAv goals were

associated with less frequent prosocial behavior and increased moral disengagement, but only when accompanied by higher perceptions of cohesion. Finally, intrateam PAp and PAv goals both demonstrated negative effects on prosocial behavior, but only in one of the two studies with intrateam PAv showing this effect in Study 1 and intrateam PAp doing so in Study 2.

The study of achievement goals in team sport is well established; however, little research to date has explicitly acknowledged the intrateam performance goals that athletes may form with respect to their teammates (Harwood & Beauchamp, 2007). As hypothesized, analyses revealed that a desire to be the best player on one's team (i.e., intrateam PAp), or to avoid being one of the worst players on one's team (i.e., intrateam PAv), aligned with greater antisocial teammate behavior. Although researchers have yet to identify the full range of adverse group-related effects that accompany this type of antisocial behavior, athletes who criticize and verbally abuse teammates display reduced empathy toward others (Kavussanu & Boardley, 2009). In this investigation, strong intrateam PAp and PAv goals predicted greater moral disengagement, which partially mediated the intrateam PAp/PAv–antisocial behavior relationship (see Boardley & Kavussanu, 2009; Hodge & Lonsdale, 2011). As a result, it appears that high intrateam PAp/PAv goals may promote behaviors and perceptions that disrupt team functioning, and that the presence of these goals in interdependent sport teams might have deleterious implications for group processes.

With respect to negative effects of intrateam PAp and PAv goals on prosocial behavior, structural analyses partially supported our hypotheses, inasmuch as the expected effects were observed in one of the two studies for each goal. Both athletes who aimed to be the best player in their team (i.e., high PAp goal; Study 2), and athletes who sought to avoid being outperformed by their teammates (i.e., high PAv goal; Study 1), engaged in lower levels of prosocial behavior toward teammates in one of the two studies. In an acute sense, the antisocial behaviors associated with intrateam PAp and PAv goals (e.g., swearing at, insulting, criticizing teammates) may be more damaging to team harmony than a lack of prosocial actions. Over time though, a sustained absence of prosocial behavior might stifle the development of group morale and create a team environment characterized by low levels of support, feedback, and appreciation.

As highlighted above, effects of intrateam PAp and PAv goals on prosocial behavior were only observed in one of the two studies, with the effect for intrateam PAv goals apparent in Study 1 and that for intrateam PAp in Study 2. The bivariate correlations among intrateam PAp and PAv goals and prosocial behavior indicate that the only relationship that changed significantly (Fisher's $Z = 3.49, p < .001$) across the two studies was the association between intrateam PAv and prosocial behavior—being considerably stronger in Study 1 ($r = -.42$) than in Study 2 ($r = -.18$). Thus, it would appear that the change in this relationship across the two studies may in part account for the differing effects of PAp and PAv on prosocial behavior seen in model testing. This change could be due to differences in athletes' average tenure on teams between the two samples; athletes in Study 2 had on average been a member of their team for almost a year longer than those from Study 1. It might be possible that as an athlete spends greater time with a given group, she or he may become less inclined to withhold deserved praise and feedback to teammates as a result of high intrateam PAv goals. Moreover, the support athletes feel they receive from their teammates, and/or the degree to which they believe in

the team's ability as a whole, might influence the extent to which their high PAV strivings predict lower prosocial behavior toward other team members. Although these are plausible explanations, we acknowledge the speculative nature of these suggestions, and encourage future researchers to consider these and other potential moderating factors (e.g., social support, collective efficacy).

Aside from intrateam performance goals, analyses showed that Australian and U.K. athletes who focused strongly on achieving personal or task-based mastery (i.e., high MAp) displayed greater prosocial behavior toward their teammates. Not only did this positive effect support our hypothesis, it also corroborated existing 2 × 2 research in group settings, which has documented that those who strive for self-referential improvement typically display high levels of cooperation and supportive communication with teammates and colleagues (see Conroy, Elliot, & Thrash, 2009). As a potential underlying factor, it may be plausible that team-sport athletes who hold strong MAp goals regarding their own performance might also endorse the same goal at the collective level (e.g., "I want our team to perform as well as possible"). Although we did not measure athletes' team-related mastery goals, in cases where individuals strive for collective (as well as personal) excellence, this may encourage prosocial behaviors that are designed to enhance the performance of other team members, including providing encouragement, praise, and constructive feedback. In future, it would be interesting to test this notion and explore the formation and consequences associated with athletes' team-related mastery goals.

As hypothesized, Study 1 (but not Study 2) analyses revealed that when athletes sought to avoid personal or task-related incompetence (i.e., high MAV), they participated in less frequent prosocial behavior toward their teammates. A number of counterproductive perceptual variables have been associated with the formation of MAV goals, including fear of failure, perfectionistic concerns, and low competence beliefs (see Moller & Elliot, 2006). As a result, athletes who are concerned with avoiding poor individual performance in team sports may engage in less prosocial behavior toward their teammates because their attention is directed solely toward monitoring their own performance. That is, while being concerned with their own actions and seeking to maintain an acceptable level of personal performance, they may simply devote less attention to (monitoring and praising) the performances of their teammates. In addition, the results of the Study 2 moderation analyses provide more detailed insight by demonstrating the conditions under which this relationship may be strongest. More specifically, these results demonstrated that MAV goals had a negative effect on prosocial behavior only when athletes perceived high levels of individual attraction to the group. It is possible that mean levels of this form of cohesion were higher in Study 1 than Study 2, and that this resulted in the contrasting predictions of prosocial teammate behavior by MAV goals across the two studies. However, given that we do not have the data to test this possibility, this explanation is tentative and remains to be investigated further in future research.

The moderating effect of individual attraction to the group on the prediction of prosocial teammate behavior by MAV goals in Study 2 was an interesting finding. Specifically, athletes who reported high intrateam MAV goals and relatively high perceptions of cohesion engaged in less frequent prosocial teammate behavior than those who reported high intrateam MAV goals but felt less personal attraction to their team. In sport, it is well documented that a strong sense of unity often coincides with positive team-related correlates. For instance, those who report

strong perceptions of cohesion have been shown to experience greater adherence to team norms (Gammage, Carron, & Estabrooks, 2001) and an increased degree of confidence in their team's ability (e.g., Paskevich, Brawley, Dorsch, & Widmeyer, 1995). Thus, it may be somewhat surprising that in the current work the negative effects of MAV goals on prosocial behavior were only observed under conditions of high individual attraction to the group. However, it may be the case that when athletes feel a strong attraction to the group, the thoughts of athletes forming MAV goals—who are known to have a propensity for detrimental cognitions such as fear of failure and perfectionistic concerns (see Moller & Elliot, 2006)—may become further consumed with the potential team-level consequences of their personal failure and imperfection. This may lead to such athletes inadvertently engaging in even less frequent prosocial teammate behavior because their attention becomes even more centered toward their own performance and not that of others. It would be worthwhile exploring this possibility further in the future, as well as other factors that may moderate the effects of intrateam goals, such as a win-loss record or athletes' satisfaction with teammates' performance.

The moderation analyses also demonstrated a positive effect of cohesion on moral disengagement, which mediated an indirect effect of cohesion on antisocial teammate behavior. Thus, athletes who perceived higher levels of team cohesion were more likely to conditionally endorse and engage in transgressive behavior. This finding may not be that surprising given that moral disengagement is socially situated and its use is learned through interaction with others who morally disengage (see Bandura, 1991). Under conditions of high attraction to the group, when an athlete is likely to spend more time in close proximity to his or her teammates, it may become much easier to learn and adopt use of the eight mechanisms described by Bandura (1991). This possibility is supported by past research that has shown athletes in more cohesive teams are more likely to adhere to team norms (Gammage et al., 2001), which may sometimes include moral disengagement. Resultant increases in moral disengagement may inadvertently lead to increases in antisocial teammate behavior such that athletes become more skilled at rationalizing such conduct. It is also possible that players perceiving a strong attraction to their team might consider members of their team to feel united enough that they can experience behaviors such as swearing and verbal abuse from teammates without these behaviors being harmful to team functioning.

The undesirable effect of cohesion on moral disengagement (and subsequently antisocial behavior) was particularly pertinent in athletes who held high MAV goals, as when combined with high levels of individual attraction to the group, such goals were associated with further increases in moral disengagement and therefore associated increases in antisocial teammate behavior. Thus, although research has largely supported the potential benefits of cohesion for interdependent functioning in team sport, the results of Study 2 suggest it is possible that in certain circumstances cohesion may result in detrimental outcomes such as decreased prosocial teammate behavior, greater moral disengagement, and more frequent antisocial behavior. This finding is consistent with previous research that has exemplified possible disadvantages of high cohesion in sports teams (Hardy, Eys, & Carron, 2005). More specifically, Hardy et al. (2005) reported that more than 50% of 105 team-sport athletes surveyed indicated potential disadvantages to high task cohesion. Examples of these potential disadvantages at the group level

were communication problems (e.g., team members criticizing poor performances or errors) and reduced social relations (e.g., players getting so competitive that it causes breakdown among friends). Such undesirable consequences of high task cohesion are consistent with the increases and decreases, respectively, in antisocial and prosocial teammate behavior associated with increased cohesion in the current study, particularly when accompanied by high MAV goals.

In addition to the future research directions already outlined, it is important to recognize how our design limitations yield a number of other recommendations. For example, “general” performance goals (i.e., with respect to “others”) were not examined, and so the unique effects of athletes’ intrateam performance goals were not modeled while accounting for general performance goals. It would be interesting in future to explore the factors that contribute to consistency (or divergence) between athletes’ general and intrateam performance goals, as well as the relative contribution that each of these goals make with respect to important individual and team outcomes. The cross-sectional design that we employed also precludes us from making any causal inferences regarding our model pathways, and in future it would be worthwhile to conduct intervention-based work that explores behavioral changes as a result of modifications in athletes’ intrateam goals. For instance, studies that manipulate motivational climates, coach communication styles, and/or team norms, might display observable effects upon athletes’ intrateam goals, and may bring about changes to their prosocial and antisocial behavior at training and in competition (e.g., Hodge & Lonsdale, 2011). In addition, although our interest in Study 2 was on the potential moderating effect of cohesion on the relationships identified in Study 1, it is also possible that cohesion may have had an impact on athletes’ achievement goals. For example, a strong sense of cohesion could decrease avoidant goals as athletes may be less worried about performing badly under conditions of high cohesion due to them being more focused on team rather than individual performance issues; this is consistent with the associations in Study 2 (see Table 1).

Longitudinal work that tracks athletes over time might also serve to identify the events that prompt fluctuations in intrateam PAp and PAv goals. For example, it would be fascinating to examine whether, and how, athletes’ intrateam goals (and behavior) are modified as they approach state/national squad selections, lose their starting place on a team, adopt extrinsic (rather than intrinsic) motives for participation, and/or lose confidence in their own ability. Finally, further research is warranted that explores whether athletes across a given team display similar (versus disparate) intrateam goals. Such research requires the recruitment of complete teams, which we did not have. Charting the degree of within-team consensus in intrateam goals may demonstrate the effects that arise when all members report strong intrateam PAp and PAv goals, or clique formation when some individuals seek to outperform their teammates while others endorse mastery goals. It would also be intriguing to investigate whether and how team functioning is compromised when a single player (i.e., a “bad apple”) strives for personal achievement at the expense of her or his teammates, particularly when that player occupies a key role on the team (e.g., captain).

Given the current focus on interdependent activities, it may be useful to consider the findings of the current study alongside aspects of interdependence theory (Kelley & Thibaut, 1978) when proposing practical recommendations. Ideally, coaches and

applied sport psychologists should aim to promote positive interdependence (i.e., engaging in promotive interactions such as offering teammates encouragement) and downplay negative interdependence (i.e., obscuring or discouraging the efforts of others). This may be achieved by encouraging task interdependence (i.e., interconnecting tasks so that the performance of one individual depends on the performance of others) and outcome interdependence (i.e., ensuring personal benefits and costs depend on the performance of others). Such an approach should discourage the adoption of intrateam PAp and PAv goals, which center on individual performance in comparison with others, and would be consistent with mastery-oriented climates, which have been associated with increases and decreases, respectively, in prosocial and antisocial teammate behavior (Boardley & Kavussanu, 2009) that may promote prosocial norms. Practitioners could also encourage players to consider the likely outcomes of their teammate-directed actions for the recipient and not just the anticipated personally derived outcomes. Considering outcomes for others in this way is consistent with empathy, which has been associated with less frequent antisocial teammate behavior (Kavussanu & Boardley, 2009). Thus, increased positive interdependence and consideration of outcomes of intrateam behavior for others may encourage adoption of achievement goals associated with desirable intrateam behavior. In summary, this investigation makes a unique contribution to the literature on group dynamics in sport, by documenting novel relationships between intrateam achievement goals and behavior, as well as stimulating a host of research directions that promise to further advance our knowledge of team functioning.

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