Consequences of prosocial and antisocial behavior for the recipient

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Running Head: PROSOCIAL AND ANTISOCIAL BEHAVIORS

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Abstract

Statement of problem: Although studies have examined antecedents of prosocial and antisocial behaviors in sport, little is known about the potential consequences of these behaviors for the recipient. In this research, we examined: (a) whether teammate prosocial and antisocial behaviors are related to athletes' effort, performance, enjoyment and anger during a match and the mediating role of enjoyment and anger (Studies 1 and 2); and (b) whether prosocial and antisocial behaviors are related to commitment to play for one's team and whether enjoyment and performance mediate these relationships (Study 2).

Method: Right after a game, football/soccer (N = 203; Study 1) and basketball (N = 281; Study 2) players completed a multi-section questionnaire measuring the aforementioned variables.

Results: Prosocial teammate behavior was positively related to effort, performance, and enjoyment, and enjoyment mediated the relationship between prosocial teammate behavior and effort and performance; prosocial teammate behavior was also positively related to commitment directly and indirectly through enjoyment and performance. Antisocial teammate behavior was positively related to anger and negatively related to effort and performance. Anger and performance mediated the effects of antisocial teammate behavior on effort and commitment, respectively.

Conclusions: Our findings demonstrate the importance of acting prosocially and not acting antisocially toward one's teammates and may have implications for enjoyment, effort, performance, and commitment in sport.

Keywords: performance, commitment, enjoyment, effort, mediation

Consequences of Teammate Prosocial and Antisocial Behaviors for the Recipient

Moral behavior in sport has attracted considerable research attention in recent years (see Kavussanu, 2012). While playing sport, athletes engage in a variety of prosocial behaviors, such as helping other players off the floor, helping injured players, and supporting or encouraging their teammates (Kavussanu & Boardley, 2009); they also engage in antisocial acts, such as trying to injure their opponents and verbally abusing their teammates (e.g., Kavussanu & Boardley, 2009; Kavussanu, Seal, & Phillips, 2006). Although much research has investigated antecedents of prosocial and antisocial behaviors (e.g., Hodge & Lonsdale, 2011; Kavussanu, Stanger, & Ring, 2015; Kavussanu, Ring, & Kavanagh, 2015), we know little about the consequences of these behaviors for the *recipient*. The present research was designed to address this issue.

A theoretical framework that is pertinent to this research is the social cognitive theory of moral thought and action (Bandura, 1991). According to Bandura (1991), individuals develop moral rules or standards from a variety of sources such as modeling, direct tuition, and others' evaluative social reactions. In addition, the social environment influences the individual's behavior, but the individual can also affect the environment. Importantly, Bandura (1991) has called for a focus on moral *behavior* highlighting the consequences of one's actions for the recipient. In contrast to structural developmental theorists, who focus on moral cognition (e.g., Kohlberg, 1984), Bandura (1991) emphasized that behavior – regardless of one's thoughts or motives – has consequences for others. For example, verbally abusing or hitting another person should result in some psychological suffering for the recipient regardless of the reasons that led to the behavior.

Bandura (1999) has also distinguished between proactive morality, which is the power to behave humanely, and inhibitive morality, which is the power to refrain from behaving inhumanely. These two dimensions of morality have been investigated in sport research as

prosocial and (lack of) antisocial behavior, respectively. Prosocial behavior is voluntary behavior intended to help or benefit another individual (Eisenberg & Fabes, 1998), while antisocial behavior has been defined as behavior intended to harm or disadvantage another individual (Kavussanu & Boardley, 2009; Sage, Kavussanu, & Duda, 2006). Prosocial and antisocial behaviors can have positive and negative consequences, respectively, for the recipient. It has been argued that considering both dimensions of morality is important for a more complete understanding of the moral conduct that takes place in sport (Kavussanu, 2012; Kavussanu & Boardley, 2009).

Investigating prosocial and antisocial behaviors using both observational (e.g., Kavussanu et al., 2006, 2009) and self-report (e.g., Kavussanu & Boardley, 2009) methods, researchers have found that a number of such acts occur in sport and they are directed toward both opponents and teammates. For example, team sport athletes have reported - or have been observed - to congratulate their teammates for good play, give positive feedback and encourage their teammates after a mistake, thus engaging in prosocial behavior; but also to verbally abuse, swear, argue, criticize, and express frustration at a teammate's poor play, thus displaying antisocial behavior (Kavussanu et al., 2006, 2009; Kavussanu & Boardley, 2009). The aim of the present research was to investigate potential consequences of prosocial and antisocial teammate behaviors for the recipient. We focused only on potential consequences of *teammate* behavior because one's teammates are stable and could have more lasting consequences for the recipient; in addition, their behavior could be influenced by the coach, thus, one can more readily intervene on teammate behavior. Finally, because teammate behaviors are different from opponent behaviors (see Kavussanu & Boardley, 2009), they could also have distinct consequences for the recipient.

Consequences of Teammate Behaviors

In his social cognitive theory of moral thought and action, Bandura (1991) outlined the morally relevant consequences of behavior (e.g., the suffering experienced by the victim of aggressive behavior). However, besides these apparent consequences, the teammate behaviors identified in sport morality research could also have achievement-related consequences. For example, players who are the recipients of antisocial conduct from their teammates may be de-motivated to try hard during a match. These behaviors could be interpreted as lack of trust of one's teammates in the player's athletic ability and could demoralize the recipient. In contrast, receiving positive or constructive feedback from a teammate or being congratulated by a teammate for good play may increase the recipient's confidence in their ability to perform, which in turn should enhance their motivation and performance. Indeed, positive feedback about performance on a shuttle run led to higher perceived competence, which was associated with greater intentions to perform similar activities in the future (Mouratidis, Vansteenkiste, Lens, & Sideridis, 2008). Social cognitive theory (Bandura, 2001) underlines the important role that the social environment plays in influencing the individual's behavior; one's teammates are part of this environment.

The present study is grounded on social cognitive theory (Bandura, 2001) as well as on achievement goal theory (Ames, 1992) and related research. More specifically, a construct derived from achievement goal theory that shares some similarities with prosocial and antisocial teammate behaviors is peer motivational climate (Vazou, Ntoumanis, & Duda, 2006). Peer climate refers to the emphasis placed by one's teammates on self-referenced (i.e., task involving) versus other-referenced (i.e., ego involving) criteria for success (e.g., Ntoumanis & Vazou, 2005; Vazou et al., 2006). One dimension of the task-involving peer climate – improvement - pertains to teammates providing feedback and encouragement to improve. The teammate behaviors encompassed in this dimension (e.g., help and encourage each other to improve), in addition to focusing on self-referenced achievement, can be

classified as prosocial, because they are voluntary behaviors with potentially positive consequences for the recipient (Eisenberg & Fabes, 1998; Kavussanu, 2012). Similarly, the intra-team conflict dimension of ego-involving peer climate pertains to negative behaviors toward teammates (e.g., criticizing and laughing at teammates when they make mistakes, making negative comments that put teammates down) that could be classified as antisocial behaviors because they can have negative consequences for the recipient (see Kavussanu, 2012).

Due to the similarities between prosocial and antisocial teammate behaviors and some dimensions of the peer motivational climate, findings of peer climate studies can be used as additional support for our research hypotheses regarding the consequences of teammate prosocial and antisocial behaviors. In previous research, Vazou et al (2006) reported a positive – albeit weak – relationship between task-involving peer climate and coach and PE teacher-rated effort, when confronted with difficult tasks; the reverse relationship was revealed between effort and ego-involving climate. These findings were replicated in a second study, which examined coach-rated effort over the previous three months (Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012). Based on these findings, it is reasonable to expect that prosocial and antisocial teammate behaviors would be differentially associated with effort during a match. In turn, effort could lead to better performance, thus teammate behavior could also influence the recipients' performance indirectly via effort. Research has established links between effort and performance in sport (Cooke, Kavussanu, Mclntyre, Boardley, & Ring, 2011; Cooke, Kavussanu, Mclntyre, & Ring, 2013).

The recipients of prosocial teammate behavior could also experience different emotions. Prosocial teammate behavior could lead athletes to feel more socially connected with their teammates and due to this social bond they may experience enjoyment, which is a positive emotional response to sport and includes feelings such as fun, pleasure, and liking

(Scanlan, Russell, Beals, & Scanlan, 2003). Previous research in young athletes has shown that a task-involving peer climate was a strong positive predictor of enjoyment (Vazou et al., 2006) as well as vitality (Ntoumanis et al., 2012), which is a positive emotional experience and an index of well being. Thus, prosocial teammate behavior may lead to enjoyment, and this in turn could influence the recipients' effort and performance. Research has established links between enjoyment, effort, and performance (Cooke et al., 2013). When individuals enjoy performing a particular task, they tend to spend more time on it and perform better (Puca & Schmalt, 1999). Consequently, the positive effects of prosocial teammate behavior on the recipients' effort and performance during a match could occur via enjoyment. This is in line with Bandura's (2001) social cognitive theory, where affective states are highlighted as one of the psychological mechanisms through which the environment influences the individual's behavior.

Finally, antisocial teammate behavior could lead to anger, which is an emotion that involves high arousal and results from an event perceived to be a "demeaning offence against me and mine" (Lazarus, 2000, p. 234 cited in Jones, Lane, Bray, Uphill, & Catlin, 2005, p. 410). Being the recipient of verbal abuse and criticism from one's teammates could elicit anger as the recipients might feel that they are offended or treated disrespectfully by their teammates. Anger was the predominant negative emotional response of disrespectful treatment (Miller, 2001) and offenses to one's self (Lazarus, 1991) in organizations. In turn, anger, could influence effort and performance, although the manner in which this could occur is not clear. Some studies have found a negative link between anger and performance (e.g., Beedie, Terry, & Lane, 2000; Uphill, Groom, & Jones, 2012), but others have shown that anger facilitated performance through generating greater effort (Robazza & Bortoli, 2007; Woodman et al., 2009). Thus, anger may mediate the effect of antisocial teammate behavior on performance, but it is not clear in which direction.

The Present Research

To date, much of the research on morality in sport has investigated antecedents of prosocial and antisocial behaviors (see Kavussanu, 2012). Little is known about the potential consequences of these behaviors for the recipient. In this research, we examined cognitive (commitment, discussed in Study 2), affective (enjoyment, anger) and behavioral (effort, performance) consequences of moral behavior. We focus on these variables as potential consequences of moral behavior because these are achievement-related variables that are important in the achievement context of sport. Moreover, it has been suggested that prosocial teammate behaviors are beneficial for the entire team because they can enhance individual players' motivation and subsequent performance (Kavussanu & Boardley, 2009).

In two studies, we examined: (a) whether prosocial and antisocial teammate behaviors are associated with recipients' effort, performance, enjoyment and anger during a match; and (b) whether enjoyment and anger mediate the relationship between prosocial and antisocial behaviors, respectively, and effort and performance. Although objective performance is an important outcome in sport, quantifying this variable in team sports is challenging. A variable that can be used as a proxy for actual performance is perceived performance, which refers to a self-evaluation of how an individual has performed at a specific task (Dewar & Kavussanu, 2012; Graham, Kowalski, & Crocker, 2002) and is informed by objective performance. We refer to perceived performance as "performance" interchangeably with "perceived performance" for conciseness.

We hypothesized that prosocial teammate behavior (to which we also refer hereafter as prosocial behavior) would be positively related to effort, enjoyment (e.g., Ntoumanis et al., 2012; Vazou et al., 2006), and perceived performance. We also expected that enjoyment would mediate the relationship between prosocial behavior and effort and perceived performance (e.g., Cooke et al., 2011, 2013; van de Pol & Kavussanu, 2011). Conversely, we

hypothesized that antisocial teammate behavior (to which we also refer hereafter as antisocial behavior) would be negatively related to recipients' effort (e.g., Ntoumanis et al., 2012; Vazou et al., 2006) and performance during a match and positively related to anger. Finally, we expected that anger would mediate the relationship between antisocial behavior and effort and performance, but due to mixed findings in the literature (e.g., Beedie et al., 2000; Woodman et al., 2009), we did not specify the direction of this relationship.

We sought to answer these questions in two studies using two independent samples of team sport athletes. We focused on team sports because teammate behavior is more likely to influence the recipient when there is frequent interaction, which typically occurs in team sports. In the second study, we also examined commitment as a further potential consequence of teammate behaviors and investigated whether enjoyment and perceived performance mediated the relationship between teammate behaviors and commitment.

Study 1

Method

Participants and procedure.

Participants were male (n = 103) and female (n = 100) football players recruited from 21 football clubs, from two regional leagues, in the UK. At the time of data collection, participants ranged in age from 16 to 36 years old (M = 23.46; SD = 4.27), had been playing competitive football for 2-25 years (M = 11.97, SD = 4.48), and had been playing for their current team for 1-16 years (M = 3.28; SD = 2.50). Their highest level of competition was club (n = 67; 37.4%), county (n = 63; 31%), regional (n = 45; 22.2%), national (n = 16; 7.9%), and international (n = 2; 1%); one participant left this question unanswered (1%).

After obtaining ethical approval from the University Ethics Committee, we identified coaches of football teams, via the internet, we contacted these coaches, and we asked them to let players participate in the study. Data were collected within 30 minutes of the end of a

football match[1]. Players were informed of the purpose of the study, that their participation was voluntary, their responses would only be used for research purposes and would be kept confidential, no one would be identified by name, and that they could withdraw their participation at any time. Questionnaires were distributed by research assistants, and data collection took place 2-4 months after the season had started. The order of questionnaires was counterbalanced to avoid order effects.

Measures.

***Perceived teammate behavior*.** Adapted versions of the two teammate behavior subscales of the Prosocial and Antisocial Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009) were used to measure perceived teammate behavior. The original subscales comprise four items that measure prosocial behavior and five items that measure antisocial behavior in team sports. Participants were asked to think about how often their teammates engaged in each behavior toward them during the match they had just played. The stem "During today's match, my teammates" was followed by items measuring prosocial (e.g., encouraged me) and antisocial (e.g., argued with me) behaviors. An additional item with high face validity (i.e., supported me) was included in order to increase the internal reliability of the prosocial teammate behavior subscale (as per Bolter & Weiss, 2013).

Participants indicated their responses on a Likert scale ranging from 1 (*never*) to 5 (*very often*). Evidence for the factorial, convergent, and concurrent validity of the PABSS, as well as for the internal consistency of the scores of the subscales measuring prosocial ($\alpha = .74$) and antisocial ($\alpha = .83$) behavior toward teammates has been provided (Kavussanu & Boardley, 2009; Kavussanu, Stanger, & Boardley, 2013). In this study, Confirmatory Factor Analysis (CFA) using EQS 6.1 and the robust maximum likelihood method indicated that the two-factor model had a very good fit to the data: Satorra-Bentler scaled χ^2/df: 52.27/34, RCFI: .971, SRMR: .057, RMSEA: .044. Factor loadings ranged from .60 to .85 for prosocial

behavior and .56 to .83 for antisocial behavior. Hu and Bentler (1998) suggest that values close to .95 for the CFI, .08 for SRMR, and .06 for RMSEA indicate a good fit to the data.

Enjoyment. We assessed enjoyment with the four-item enjoyment subscale of the sport commitment model (Scanlan, Carpenter, Lobel, & Simons, 1993). Participants read each item and indicated their level of enjoyment in the match they had just played. Example items are "Did you enjoy playing today?" and "Did you like playing today?" Responses were made on a Likert scale, with anchors of 1 (*not at all*) and 5 (*very much*). The scale demonstrated factorial and discriminant validity and reliability ($\alpha \geq .90$) in past research (Scanlan et al., 1993). CFA conducted on the present data showed an excellent fit to the data: Satorra-Bentler scaled χ^2/df: 1.01/2, RFCI: 1.000, SRMR: .003, RMSEA: .000; factor loadings range: .92 to .94.

Effort. We used the five-item effort subscale of the Intrinsic Motivation Inventory (Ryan, 1982) to measure participants' effort during the match they had just played. Example items are "I put a lot of effort into this match" and "I tried very hard while playing this match". Participants responded to each item on a Likert scale, ranging from 1 (*not at all true*) to 7 (*very true*). Evidence for the internal consistency of the scores ($\alpha = .84$) as well as the factorial and discriminant validity of this scale has been provided in previous research (McAuley, Duncan, & Tammen, 1989). CFA conducted on the present data showed a good fit to the data: Satorra-Bentler scaled χ^2/df: 8.84/2, RCFI: .986, SRMR: .020, RMSEA: .111; factor loadings ranged from .62 to .94.

Perceived performance. Participants' perceptions of their performance in the match they had just played were assessed with a 5-item scale developed based upon a measure of subjective improvement (Balaguer, Duda, & Crespo, 1999) and used in previous research (Dewar & Kavussanu, 2012). Participants were asked to rate their technical (e.g., ball control), tactical (e.g., set play), physical (e.g., endurance), and psychological (e.g.,

regrouping after poor play) aspects of their performance as well as their overall performance during the match they had just played. Responses to these items were made on a Likert scale ranging from 1 (*very poor*) to 10 (*excellent*). In past research, factor analysis revealed one factor that explained 65.10% of the variance, factor loadings ranged from .63 to .86 (Dewar & Kavussanu, 2012), and the scale scores had very good reliability ($\alpha = .86$). In this study, CFA using EQS 6.1 and the robust maximum likelihood method indicated that the model had a good fit to the data: Satorra-Bentler scaled χ^2/df: 19.92/5, RCFI: .969, SRMR: .047, RMSEA: .103, and factor loadings ranged from .53 to .98.

Anger. We used the four-item anger subscale of the Sport Emotion Questionnaire (Jones et al., 2005) to measure the anger experienced during the match participants had just played. Players were asked to rate the extent to which they felt irritated, furious, annoyed, and angry, on a Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). The anger subscale has shown good concurrent validity and reliability ($\alpha = .82$), when used post-competition (Allen, Jones, & Sheffield, 2009). In this study, CFA showed a good fit to the data: Satorra-Bentler scaled χ^2/df: 9.86/2, RCFI: .973, SRMR: .032, RMSEA: .119; factor loadings range: .64 to .84.

Results

Preliminary analyses.

Before the main statistical analyses, preliminary data screening was conducted to check for normality, missing values, and outliers for each variable. When missing data is below 5%, any method for replacing missing values is appropriate (Tabachnick & Fidell, 2001). Missing data (0.4 %) for each variable were replaced with the mean of the respective variable.

Descriptive statistics, correlation analyses, and scale reliabilities.

Descriptive statistics, correlations, and reliabilities of scale scores can be seen in Table 1. On average, participants reported that during the match they had just played, their teammates behaved toward them “sometimes” to “often” prosocially and “never” to “sometimes” antisocially. They also reported high levels of enjoyment, effort, and performance and “low” to “moderate” levels of anger. Finally, compared to females, males reported significantly more frequent antisocial teammate behavior, lower enjoyment, and more anger during the match. Scores in all measures showed very good internal consistency (alpha range = .80 - .94). Kline (2005) has offered rough guidelines for interpreting reliability coefficients: Values around .70, .80 and .90 considered as adequate, very good, and excellent, respectively.

Main analyses.

The purpose of the study was to examine whether (a) prosocial and antisocial behaviors are associated with effort, performance, enjoyment and anger during a match, and (b) whether enjoyment and anger mediate the relationship between prosocial and antisocial behaviors, respectively, and effort and performance; in these analyses we controlled for gender. To this end, we used the PROCESS (Hayes, 2013) SPSS macro, which simultaneously tests direct, indirect, and total effects in simple and multiple mediation models. Direct effects are the effects of the predictor on the outcome variable, that occur independently of the mediator(s); indirect effects are the effects of the predictor on the outcome variable via the mediator(s); and total effects are the sum of the direct and indirect effects. Bootstrapping was set at 5000 samples with bias-corrected 95% confidence intervals estimated for all effects. An effect is significant when the confidence interval does not contain zero. The Completely Standardized Indirect Effect (CSIE) is reported as the effect size (Preacher & Kelley, 2011), and values of .01, .09, and .25 represent small, medium, and large effect sizes, respectively (Cohen, 1992). All direct, indirect, and total effects are presented in Table 2. In the description below, we

have focused on the results that pertain directly to our study purposes.

First, we examined whether prosocial behavior was associated with effort, performance, and enjoyment, and whether the effects of prosocial behavior on effort and performance were mediated by enjoyment; in these analyses, antisocial behavior and anger were covariates. As can be seen in Table 2 (top) and Figure 1, prosocial behavior had positive and significant direct effects on all three variables (enjoyment, effort, and performance). Moreover, prosocial behavior had significant indirect effects - via enjoyment - on effort (b = .082, 95% CI = .030, .167) and performance (b = .152, 95% CI = .085, .281), supporting the mediating role of enjoyment. In addition, as can be seen in Table 2 (top), prosocial behavior had indirect effects on performance through its *serial* positive effects on enjoyment and then effort. Both the total and total indirect effects were significant.

We used the same serial mediation analysis to investigate (a) whether antisocial behavior was associated with effort, performance, and anger and (b) whether the effects of antisocial behavior on effort and performance were mediated by anger; prosocial behavior and enjoyment were covariates in this analysis. As shown in Table 2 (bottom) and Figure 1, antisocial behavior had a negative effect on effort, and a positive effect on anger, supporting our hypotheses, but no effect on performance. In addition, anger mediated the relationship between antisocial behavior and effort (positively), as indicated by the significant indirect effect (b = .037, 95% CI = .005, .097) of antisocial behavior on effort via anger (Table 2, bottom). The total effect of antisocial behavior on effort was negative and significant, while the total effect on performance was not significant.

Finally, we explored whether anger and effort sequentially mediated the effect of antisocial behavior on performance. Although we found a positive significant indirect effect of antisocial behavior on performance via anger and then effort, the total and total indirect

effects were not significant. Thus, antisocial behavior had an overall negative effect on effort but no overall effect on performance.

Study 2

The results of Study 1 broadly supported our research hypotheses: The findings revealed that football players, who perceived more frequent prosocial behavior from their teammates toward them during a match, were more likely to enjoy the football match, exerted more effort, and reported higher levels of performance – as assessed at the end of the match. In contrast, players who perceived that their teammates acted antisocially toward them reported greater anger and lower effort. In Study 2, we aimed to determine whether these findings would be replicated with a different sample and team sport.

We also examined an additional potential consequence of prosocial and antisocial teammate behaviors: sport commitment, defined as "a psychological construct representing the desire and resolve to continue sport participation" (Scanlan et al., 1993, p. 6). Players with a high level of commitment for their team tend to remain involved with their team and persist despite failure and challenges (Scanlan et al., 2003). One of the sources of sport commitment is social support, defined as "feeling encouraged and supported by other people for playing" (Scanlan et al, 2003, p. 379). Although social support is distinct from teammate prosocial behavior, the two constructs share some similarities. Indeed, supporting and encouraging a teammate are prosocial behaviors because they are intended to benefit someone else. In past research, teammate social support (e.g., my teammates encourage me to do my sport) enhanced commitment (Santi, Bruton, Pietrantoni, & Mellalieu, 2014). Thus, we expected that prosocial teammate behavior during a match would be positively related to athletes' commitment to continue playing for their team. Although commitment is a general psychological state that is unlikely to be affected by a single event, players' experiences with their teammates during a match should be indicative of their typical sport experiences.

We also examined whether the relationship between prosocial teammate behavior and sport commitment was mediated by enjoyment and perceived performance. Enjoyment has been identified as one of the most important sources of sport commitment (Scanlan et al., 1993, 2003), and this is supported by empirical research (e.g., Scanlan et al., 1993, 2003; Ullrich-French & Smith, 2009). One study has found that when athletes have fun and experience positive team interactions, they are more likely to be committed (e.g., Torregrosa et al., 2011). Based on these findings, we expected that prosocial teammate behavior would lead to higher commitment, because such behavior is expected to create an enjoyable experience for the players. We also hypothesized that perceived performance would mediate the relationship between prosocial behavior and sport commitment based on previous links between athletes' perceived competence and performance and team commitment (Tsai Wen & Chang Kong, 2010; Ullrich-French & Smith, 2009; Weiss & Weiss, 2007).

With respect to antisocial behavior, we expected that this behavior would be negatively associated with players' commitment. Experiencing negative behavior from one's teammates, such as arguing, swearing and verbal abuse may lead players to not want to continue their participation in the team because such behavior makes the sport experience unpleasant. In support of this argument, two studies showed that interpersonal aggressive behavior between employees was associated with lower organizational commitment (Aubé & Rousseau, 2011; LeBlanc & Kelloway, 2002).

In sum, in Study 2, we posited the following hypotheses. First, we hypothesized that Study 1 findings would be replicated in a sample from another team sport (i.e., basketball). Second, we expected that prosocial behavior would be positively related to commitment (e.g., Torregrosa et al., 2011), and that this relationship would be mediated by enjoyment and perceived performance (e.g., Ullrich-French & Smith, 2009; Weiss & Weiss, 2007). We also examined whether prosocial behavior is related to commitment indirectly through its serial

effects on (a) effort and perceived performance and (b) enjoyment, effort, and perceived performance. Finally, we hypothesized that antisocial behavior would be negatively related to commitment (e.g., Aubé & Rousseau, 2011) directly or indirectly via performance, anger, and effort.

Method

Participants and procedure.

Participants were male (n = 154) and female (n = 127) basketball players recruited from teams competing in regional leagues (n = 21) and the British universities league (n = 13) in the UK. The players ranged in age from 16 to 53 years old (M = 25.01, SD = 6.88). They had competed in their sport for an average of 10 years (M = 10.94, SD = 6.20) and had played for their current team on average for three years (M = 3.41, SD = 2.42). The procedure used in Study 1 was also used in Study 2.

Measures.

Teammate behavior, effort, performance, enjoyment, and anger. These variables were measured using the same scales as in Study 1**.**

Commitment. We measured commitment using the respective subscale from the Sport Commitment Model (Scanlan et al., 1993). The stem "After today's match", was followed by four items measuring participants' desire to continue playing for their team, such as "How dedicated are you to continue playing for this team?" Participants responded on a Likert scale, anchored by 1 (*not at all dedicated*) and 5 (*very dedicated*). This scale has acceptable validity and reliability (Scanlan et al., 1993). CFA conducted on the present data showed an excellent fit to the data: Satorra-Bentler scaled χ^2/df: 3.53/2, RCFI: .998, SRMR: .012, RMSEA: .052; factor loadings range: .53 to .98.

Results

Preliminary analyses.

Preliminary analyses were performed to assess missing data and outliers. Only 4% of the data points were missing, and these were replaced with the mean of each respective variable. Eleven outliers (> 3.29 *SD* from the mean) were removed (Tabachnick & Fidell, 2001).

Descriptive statistics, correlation analyses, and scale reliabilities.

Descriptive statistics, correlations, and scale reliabilities for all variables are presented in Table 3. On average, participants reported that their teammates behaved prosocially toward them "sometimes" to "often" and acted antisocially "never" to "sometimes" during the match they had just played. Players reported "moderate" to "high" levels of enjoyment, effort, performance, and commitment, and low levels of anger. Correlations were in the expected direction. Males reported more prosocial and antisocial teammate behaviors, more anger, and less effort than females. Scores of all measures had good-to-very-good internal consistency (see Kline, 2005).

Main analyses.

Similar to the analyses conducted in Study 1, we used the PROCESS (Hayes, 2013) SPSS macro in Study 2 to examine our study purposes. First, we examined (a) whether prosocial behavior was associated with effort, performance, and enjoyment, and (b) whether enjoyment mediated the effects of prosocial behavior on effort and performance; in this analysis, we controlled for antisocial behavior, anger, and gender. A summary of all direct, indirect, and total effects can be seen in Table 4 (top). As Table 4 and Figure 2 show, prosocial behavior had significant direct positive effects on enjoyment, effort and performance, and significant indirect effects on effort and performance via enjoyment. These findings supported our hypotheses. We also found that prosocial behavior had an indirect positive effect on: performance via effort; and performance via enjoyment and then effort

(serial mediation). The total effects of prosocial behavior on effort and performance were positive, and the findings replicated those of Study 1.

In a second set of analysis, we examined (a) whether antisocial behavior was associated with effort, performance, and anger (controlling for prosocial behavior, enjoyment, and gender) and (b) whether anger mediated the effects of antisocial behavior on effort and performance. Results of these analyses can be seen in Table 4 (bottom) and Figure 2. Antisocial behavior had a direct negative effect on effort and performance and a positive effect on anger; anger positively mediated the effect of antisocial behavior on effort but not performance. We also found that the effect of antisocial behavior on performance was positively mediated by the serial effects of anger and then effort, that is, antisocial behavior was positively associated with anger, which, in turn, was positively associated with performance via effort. However, the total effect of antisocial behavior on performance (i.e., direct and indirect effects via anger and effort) was negative (see Table 4, bottom) suggesting that when all variables and effects are taken into consideration, antisocial behavior has a negative effect on performance.

Finally, we examined whether prosocial behavior was associated with commitment and whether enjoyment and performance mediate this relationship; in these analyses, antisocial behavior and anger were included as covariates. The results are presented in Table 5 (top) and Figure 2. It can be seen that prosocial behavior had a significant direct positive effect on commitment and significant *indirect* effects via: enjoyment; performance; enjoyment and then performance; effort and performance; and enjoyment, effort, and performance.
We also examined whether antisocial behavior was associated with commitment, and whether this relationship was mediated by performance, controlling for prosocial behavior and enjoyment. As can be seen in Table 5 (bottom) and Figure 2, although antisocial behavior had no direct effect on commitment, it had indirect negative effects through performance and

through effort and then performance, and a small positive indirect effect through anger, effort, and performance. However, neither the total effect nor the total indirect effects were significant.

Discussion

Although many studies have examined antecedents of prosocial and antisocial behaviors in sport (see Kavussanu, 2012 for a review), the consequences of these behaviors for the recipient have received no research attention. We conducted two studies to investigate whether team-sport athletes' perceptions of their teammates' prosocial and antisocial behaviors during a match were related to their effort, perceived performance, enjoyment, and anger, and whether enjoyment and anger respectively, mediated the relationships between moral behavior and effort and performance. We also examined whether prosocial and antisocial teammate behaviors were differentially related to commitment; and whether enjoyment and perceived performance mediated these relationships.

Consequences of Prosocial Behavior

In both studies, the hypotheses that prosocial behavior would be positively related to effort, perceived performance, and enjoyment were supported. Those players who perceived that, during the match they had just played, their teammates offered encouragement and support, congratulated them for good play, and gave them positive and constructive feedback, were more likely to enjoy the game, exert more effort, and report better performance. These findings support and extend previous research, which has shown that players' perceptions of positive teammate behavior were positively associated with effort and enjoyment (Ntoumanis et al., 2012; Vazou et al., 2006). Research on peer motivational climate has investigated positive social behaviors in relation to emphasizing effort and improvement, whereas we did not link teammate behaviors to these specific variables. Our findings highlight the importance of a positive teammate environment for effort, enjoyment and performance in sport.

As hypothesized, the relationships between prosocial behavior and effort, as well as performance, were mediated by enjoyment. These results are consistent with the findings of previous studies, which have also reported positive relationships between enjoyment, effort, and performance (e.g., Cooke et al., 2013; Puca & Schmalt, 1999). They are also in line with social cognitive theory (Bandura, 1986, 2001), which has identified affective states as one of the psychological mechanisms through which the environment exerts its influence on the individual's behavior. Our findings suggest that the social environment evident in groups such as sport teams has the potential to influence effort and perceived performance via enjoyment.

The multiple mediation model showed that the relationship between prosocial behavior and perceived performance was mediated through the *sequential* effects of enjoyment and effort. That is, the results were consistent with the view that the recipients of prosocial teammate behavior were more likely to perceive that they performed better during competition because they enjoyed the game more, which, in turn, led them to try harder. These findings suggest that effort and enjoyment are likely to be key determinants of performance (e.g., Cooke et al., 2013; Puca & Schmalt, 1999). Athletes, who enjoy the sport experience, also try hard, with subsequent positive effects on performance.

In Study 2, we also examined the relationship between prosocial behavior and commitment and whether this relationship was mediated by enjoyment and perceived performance. Consistent with our hypotheses, prosocial behavior had a direct effect on commitment as well as indirect effects via enjoyment and perceived performance. Thus, the higher commitment reported by athletes, who perceived that their teammates displayed prosocial behavior toward them, may have been due to their enjoyment and perceived performance. Although peer motivational climate has not been linked to commitment in previous research, studies have shown that teammates' social support and encouragement,

higher perception of acceptance by one's teammates, and friendship quality (e.g., after I make mistakes, my best friend on the team encourages me) were linked to players' sport commitment (e.g., Santi et al., 2014; Scanlan et al., 1993; Ullrich-French & Smith, 2009). Taken together with the results of past work, the current findings suggest that enjoyment and performance may enhance sport commitment (e.g., Carpenter et al., 1993; Tsai Wen & Chang Kong, 2010; Weiss & Weiss, 2007).

Consequences of Antisocial Behaviors

As hypothesized, players who perceived that their teammates acted antisocially toward them, for example verbally abused, criticized and swore at them during the game, exerted less effort and felt more anger. Bandura (1991) has highlighted the negative consequences of transgressive behavior for the recipient. The reports of anger by the recipients of antisocial behavior in this study suggest that the antisocial behaviors displayed by one's teammates were perceived as having negative consequences for them. These results are in line with previous findings that disrespectful treatment led to lower effort and increased anger (Lazarus, 1991; Miller, 2001). Moreover, in both studies, anger mediated the relationship between antisocial behavior and effort; however, the effect size was small. Robazza and Bortoli (2007) have also found that anger positively predicted effort. Although antisocial behavior had a negative direct effect on effort and a positive indirect effect via anger, its *total* negative effect on effort suggests that this type of behavior should be eliminated, if one wishes to maximize players' effort.

Antisocial behavior was negatively related to perceived performance in Study 2, which included basketball players, but not in Study 1 which included football players. The positive link between antisocial behavior and perceived performance of basketball players suggests that sport type may moderate the relationship between antisocial teammate behavior and perceived performance. Perhaps in basketball, where a team consists of only five players,

who come in more frequent contact with each other, antisocial teammate behavior has the potential to exert more detrimental effects on the recipient's performance. It would be interesting for future research to determine whether these findings are replicated in other samples.

In both studies, anger was *not* a mediator of the antisocial behavior- performance relationship. These findings are inconsistent with past research (Robazza & Bortoli, 2007), which found that anger facilitated rugby performance. This discrepancy could be explained by the level of physical contact, which was higher in the study by Robazza and Bortoli (2007) compared to our study; specifically, the level of contact may moderate the anger-performance relationship (Beedie et al., 2000). Anger positively mediated the effects of antisocial behavior on effort, but the total indirect effect of antisocial behavior on performance (i.e., via anger and anger and effort) was *not* significant. Importantly, the total effect of antisocial behavior on performance in Study 2 was negative.

The hypothesis that antisocial behavior would be negatively related to commitment was not supported. It is possible that commitment depends more on prosocial rather than antisocial behavior, and acting prosocially toward one's teammates is more important for commitment in sport. Ego-involving peer climate also did not predict intention to continue with one's club (Ntoumanis et al., 2012), thus it may be that antisocial teammate behavior does not influence one's commitment. Indeed, antisocial or other negative teammate behaviors have not been identified as antecedents of (lack of) commitment in the sport commitment model (Scanlan et al., 1993, 2003). Interestingly, antisocial behavior was negatively related to commitment via effort and performance. It is likely that antisocial teammate behavior led our basketball players to exert less effort and, in turn, perform worse, which might have affected their commitment at the end of the match. This finding is in line with previous studies (e.g., Ullrich-French & Smith, 2009; Weiss & Weiss, 2007) and

supports our hypothesis that perceived performance would mediate the antisocial behavior-commitment relationship.

Limitations of the Study and Directions for Future Research

The present research revealed some interesting findings but also has some limitations. First, although our findings are consistent with the mediation models that we proposed and tested, both studies were cross-sectional; thus, assertions about the direction of causality cannot be drawn from the mediation models. Experimental and longitudinal studies are needed to provide stronger evidence for the causal relationship between teammate behaviors, effort, performance, enjoyment, anger, and commitment. Also, even though we hypothesized and tested our models assuming that perceived teammate behaviors influence motivational outcomes the opposite relationships are also likely. For instance, perceived performance may also have an effect on perceived teammate behavior. Specifically, if a player does not perform well, his or her teammates may become angry, and this anger in turn may lead them to act antisocially toward the player. This suggestion is in line with Bandura's (1991, 2001) view of reciprocal causation, whereby person, behavior and environment influence one another in a reciprocal manner.

Second, we recruited only football and basketball players. Future research should replicate the current findings with athletes from other team or individual sports. Researchers could also examine other variables as potential consequences of teammate behaviors, such as cohesion, psychological well-being, and burnout. For example, perceptions of prosocial teammate behavior could be positively related to cohesion, because such behavior could lead to interpersonal attraction, which is an important precursor of cohesion (Eys, Loughead, Bray, & Carron, 2009). Future research could also investigate potential consequences of opponent behaviors for the recipient. Third, we examined perceived rather than actual (i.e., objective) performance as there is presently no accurate measure of *individual* objective

performance in football or basketball that could be easily obtained in a recreational match. Perceived performance was positively correlated with the outcome of the game ($r = .28$, $p < .001$) in Study 1 and with score difference ($r = .25$, $p < .001$) in Study 2; nevertheless, our results pertain to perceived rather than actual performance. Researchers could try to devise accurate measures of objective performance for individual players in team sports such as football and basketball and replicate the present findings using such measures.

Conclusion

In conclusion, our findings shed some light on potential consequences of prosocial and antisocial teammate behavior in team sport, and reveal some potential mechanisms by which these behaviors may affect players' effort, perceived performance, and commitment. The results suggest that coaches should promote and reward prosocial behavior while minimizing antisocial behavior among teammates. They should also encourage their athletes to engage in prosocial behaviors toward their teammates and discourage them from behaving antisocially toward each other. Prosocial teammate behaviors may be more beneficial than antisocial ones and they can contribute to a more positive sport experience for athletes.

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Endnotes

[1]Participants completed questionnaires right after a match about their experiences during the match they had just played. Previous research has used a retrospective self-report method by asking players to recall how they felt and performed immediately after competition (e.g., Dewar & Kavussanu, 2012).

[2] In Study 1, 104 players were in winning teams, 72 in losing teams, and 27 in teams that drew; in Study 2, 174 players were in winning and 107 in losing teams. We examined whether outcome of the game (lost, drew, won) and score difference (own team's score minus opposing team's score) moderated the relationships depicted in Figures 1 and 2. Neither outcome of the game nor score difference moderated these relationships in either study.

[4]MANOVA comparing winning and losing teams showed that in Study 1, players in winning teams perceived more prosocial (M = 3.85, SD = 0.62) behavior than did players in losing (M = 3.56, SD = 0.80) teams, F (1, 174) = 7.46, p <.01, η_p^2 = .04. They also perceived less antisocial behavior (M = 1.84, SD = 0.80) than did losing teams (M = 2.14, SD = 0.81), F (1, 174) = 5.59, p <.05, η_p^2 = .03. In Study 2, no significant differences emerged between losing and winning teams (antisocial: losing M = 1.47, SD = 0.52; winning: M = 1.40, SD = 0.46; prosocial behavior: winning M = 3.52, SD = 0.82; losing M = 3.34, SD = 0.88).

[3] In Study 1, 12, 20, 24 and 147 football players played for less than half a match (5.9%), half a match (9.9%), more than half a match (11.8%), and a full match (72.4%), respectively. Analyses indicated that greater playing time was associated with more prosocial behavior, enjoyment, and performance. In Study 2, 63, 94, 105 and 19 basketball players played for less than half a match (22.4%), half a match (33.5%), more than half a match (37.4%), and a full match (6.8%), respectively. Analyses indicated that greater playing time was associated with more enjoyment and effort as well as greater performance and commitment. Playing time did not moderate the relationships depicted in Figures 1 and 2.