CONSEQUENCES OF PROSOCIAL AND ANTISOCIAL TEAMMATE BEHAVIOURS FOR THE RECIPIENT

by

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A thesis submitted to

The University of Birmingham

for the degree of

DCOTOR OF PHILOSOPHY

School of Sport, Exercise, and Rehabilitation Sciences

College of Life and Environmental Sciences

The University of Birmingham

October 2017

ABSTRACT

The aim of the present thesis was to investigate the potential consequences of prosocial and antisocial teammate behaviours for the recipient in sport. Study 1 examined whether prosocial and antisocial teammate behaviours are related to enjoyment, anger, effort, and perceived performance during a match, and team commitment, and the mediating role of enjoyment, anger, effort, and perceived performance in adult football and basketball teams. Study 2 aimed to replicate the findings of Study 1 during matches being played in a competitive season of adolescent male football players and examine the moderating role of motivational climate. Study 3 experimentally examined the effects of prosocial and antisocial teammate behaviours on happiness, anxiety, anger, attention, and actual performance with a sample of university students. Study 4 examined whether prosocial and antisocial teammate behaviours are related to task cohesion and burnout and whether positive and negative affect mediate these relationships during a competitive season of adult team sports.

Prosocial teammate behaviour was positively related to enjoyment, happiness, positive affect, effort, perceived and actual performance, commitment, and task cohesion, and negatively related to burnout. Antisocial teammate behaviour was positively related to anger, negative affect, actual performance, and burnout, and negatively related to effort, perceived performance (except Study 1: football sample), attention, and task cohesion. Enjoyment mediated the effects of prosocial teammate behaviour on effort, perceived performance, and commitment. Anger (except in Study 2) mediated the relationship between antisocial teammate behaviour and effort. Effort and perceived performance mediated the effects of prosocial and antisocial teammate behaviours on perceived performance and commitment, respectively. Positive and negative affect, respectively, mediated the effects of prosocial and antisocial teammate behaviours on task cohesion and burnout. Mastery climate moderated the relationships between prosocial teammate behaviour and enjoyment and perceived

performance, while performance climate moderated the antisocial teammate behaviour-perceived performance relationship. Overall, the thesis findings suggest that teammates should be encouraged to behave prosocially towards each other, while antisocial behaviour among teammates should be discouraged as they, respectively, can have positive and negative achievement-related consequences for the recipient.

DEDICATION

I dedicate this thesis to the soul of my father (the greatest man I have known in all my life) who raised me and taught me the meaning of life, love, and the value of hard work and how to appreciate work, knowledge, and many other things. May Allah reward and bless him with paradise.

ACKNOWLEDGEMENTS

First and foremost, my deepest gratitude goes to Almighty Allah, the most beneficent and the most merciful, for his countless and continuous blessings, help and guidance throughout my PhD process as well as in every part of my life.

I owe a deep debt of sincere appreciation and thanks to my supervisors, Dr Maria Kavussanu and Professor Christopher Ring, for their ideal supervision, advice, genuine inspiration, patience, and provision of an excellent atmosphere during my PhD trajectory. The knowledge and academic skills I have gathered from them are immeasurable.

I would like to express my special gratitude to Dr Kavussanu for not only being an excellent supervisor, but for being a career mentor and friend. Without her assistance, quick and detailed feedback, invaluable suggestions, helpful criticism, encouragement, and support, this work would not have been completed.

I would also like sincerely to thank Professor Christopher Ring for his assistance with statistical analysis, experiment design and setting up the lab.

Last, but certainly not least, my heartfelt thanks and tribute to my beloved wife, Badriya, and our children, Omran and Sarah, for their love, patience, great sacrifice, continuous encouragement, understanding, and being a source of hope, smiles, strength, and optimism in the completion of this work. Thank you very much.

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LIST OF PAPERS

Data from the present thesis resulted in the following four papers. Study design, data collection, statistical analysis, and writing were conducted by Ali Al-Yaaribi. Dr Maria Kavussanu and Prof Christopher Ring assisted and advised on study design, data analysis, and paper editing. Third-year undergraduate students assisted with data collection.

1. Al-Yaaribi, A., Kavussanu, M., & Ring, C. (2016). Consequences of teammate prosocial and antisocial behavior for the recipient. *Psychology of Sport and Exercise*, *26*, 102 –112.
2. Al-Yaaribi, A., & Kavussanu, M., (in revision). Consequences of prosocial and antisocial behaviors among adolescent male soccer players. *Psychology of Sport and Exercise.*
3. Al-Yaaribi, A., Kavussanu, M., & Ring, C. (in revision). The effects of prosocial and antisocial behaviors on emotion, attention, and performance. *Journal of Sport & Exercise Psychology*.
4. Al-Yaaribi, A., & Kavussanu, M. (2017). Teammate prosocial and antisocial behaviors predict task cohesion and burnout: The mediating role of affect. *Journal of Sport & Exercise Psychology, 11*, 1–10. doi:10.1123/jsep.2016-0336

In addition, during my postgraduate study within the School of Sport and Exercise Sciences at the University of Birmingham, the following conference abstracts were published.

1. Al-Yaaribi, A., Kavussanu, M., & Ring, C. (2015). *Sport commitment and perceived performance in team sports: The role-playing of perceived teammate behaviour.*

Poster presented at 1st International American Association of Sport Psychology (AASP) Student Conference, Loughborough University, Loughborough, UK.

2. Al-Yaaribi, A., Kavussanu, M., & Ring, C. (2015). Perceived prosocial and antisocial behaviors in basketball: Implications for performance and sport Commitment. Poster presented at the *14th European Congress of Sport Psychology*, Bern, Switzerland.

3. Al-Yaaribi, A., & Kavussanu, M. (2016). The effects of prosocial and antisocial behaviors on task cohesion and burnout: The role of affect and motivational climate. World Academy of Science, *Engineering and Technology International Journal of Sport and Exercise Sciences, 3*, No: 8.

4. Al-Yaaribi, A., Kavussanu, M., & Ring, C. (2017). Consequences of prosocial and antisocial behavior for the recipient: An experimental study. Poster presented at the *International Society of Sport Psychology 14th World Congress*, Seville, Spain.

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CHAPTER ONE

General Introduction

"I'm more concerned with being a good person than being the best footballer in the world." Lionel Messi – 18 May 2016.

This thesis begins with this quote from one of the most famous athletes in the world because it illustrates what this thesis is about; that is, that morality is a matter of extreme importance in sport.

Sport is an important part of human life. Thousands of people gather either to watch or to participate. However, sport has been associated with negative (undesirable) social behaviour, which has gradually become too common and acceptable to some extent. For example, rugby league player Ben Flower twice punched his opponent Lance Hohaia in the face in the 2014 Super League Grand Final. Also, during the Fédération Internationale de Football Association (FIFA) World Cup 2014, two Cameroon teammates, Benoît Assou-Ekotto and Benjamin Moukandjo, exchanged heated words and then had a fight towards the end of the match. On the other hand, examples of positive (desirable) social behaviour in sport cannot be overlooked. One of the most remarkable examples is when the tennis player Jack Sock encouraged his opponent Lleyton Hewitt to challenge a serve that was called out incorrectly by the line judge in the 2016 Hopman Cup. Sock lost the point and the match, but he won the audience, and his story spread quickly around the world.

Morality is a central element of everyone's social life. Morality broadly refers to a genuine concern and respect for the rights and welfare of oneself and others, as well as knowing what is right and wrong (Shields & Bredemeier, 2007), and it can be expressed through different dialogues, such as verbal and nonverbal communication (Haan, 1983). Moral domain theory (Turiel, 1983) defines the moral domain by referring to the potential consequences of behaviour for others' rights and well-being. Similarly, Kavussanu (2017) defines moral behaviour as a broad range of intentional acts that could result in positive and negative consequences for others' psychological and physical welfare. For several decades,

morality has received the long-standing attention of moral development theorists across various social contexts (e.g., Haan, 1978; Kohlberg, 1984; Rest, 1984; Turiel, 1983), yet there is a common consensus that morality varies across social contexts. Sport is a unique social context that has its own morality (Bredemeier & Shields, 1984; Kavussanu, 2008).

This introductory chapter starts by providing a review of the social cognitive theory of moral thought and action (Bandura, 1991), which is used to guide the research described in this thesis. Next, moral behaviour in sport and the gap in the literature will be presented; this will be followed by discussing the potential consequences of prosocial and antisocial teammate behaviours for the recipient. This chapter ends with a summary, and the aims of the thesis and study purposes.

Social Cognitive Theory of Moral Thought and Action

The social cognitive theory of moral thought and action (Bandura, 1991) offers a holistic framework from which to understand moral behaviour in sport. Stemming from the interactionist perspective of social cognitive theory (Bandura, 1986), this theory views morality as the product of the reciprocal causation between personal factors (i.e., cognitions, feelings, and thoughts), behaviour, and the social environment, whereby each factor is a determinant of the others. In addition, the influence of the social environment (e.g., significant others) operates through psychological mechanisms (e.g., affective responses) to shape individuals' behaviour, thoughts, and feelings (Bandura, 1986, 1991, 2001).

Contrary to structural developmental approaches (e.g., Haan, 1978; Kohlberg, 1984; Rest, 1984), which focus on moral cognition and the motives of moral functioning, Bandura (1991) emphasizes the importance of overt behaviour (i.e., actual behaviour) and its associated consequences, which are important in the social labelling of behaviour; this suggests that the consequences of an individual's actions towards others should be the overriding consideration in judging the morality of behaviour rather than the individual's

intention and thoughts: “intention is never used as the decisive definer of conduct” (Bandura, 1991, p. 19). For example, one’s transgressive behaviour can have negative consequences for the recipient, regardless of the reasons or motives for committing such behaviour. Also, Bandura (1991) notes that the process of judging the morality of transgressive conduct is guided by multidimensional rules and standards, such as the immediate and long-range consequences of the conduct, whether it results in personal injury or property damage, whether it is directed at other individuals, and the perceived situational and personal motivators for it.

The moral rules and standards are formed through the modelling of others’ moral standards, direct tuition, and the approving or disapproving reactions of oneself and significant others. Moral standards are also developed through institutionally organized systems, such as mass media, and educational, political, and religious agencies (Bandura, 1989, 1991). People often model different moral standards based on different social settings and domains of conduct. However, people do not passively absorb or adopt moral standards of conduct that are taught or modelled, instead they actively construct their own moral standards through evaluating the conduct in relation to their personal standards and environmental circumstances (Bandura, 1989, 1991).

Bandura (1999) also proposes that the exercise of moral agency has dual aspects, proactive and inhibitive, which pertain to the power to behave humanely and refrain from behaving inhumanely, respectively. In the proactive aspect of morality, “people do good things as well as refrain from doing bad things” (Bandura, 1999, p. 194) and act against unjust or immoral behaviours even at their personal cost. High levels of morality are evident from engaging in positive behaviours and refraining from doing negative behaviours. Thus, Bandura (1999) introduces a holistic approach to assess moral behaviour by taking into

account both proactive (positive behaviours) and inhibitive (absence of negative behaviours) aspects of morality.

Moral Behaviour in Sport

The social context of sport is a viable platform for understanding moral behaviour. Athletes at all levels of competitive sport have abundant opportunities to interact with both teammates and opponents. Accordingly, it is unavoidable to be exposed to or engage in different positive or negative social-moral behaviours, which could have substantial implications for character building and moral development in athletes (e.g., Kavussanu & Roberts, 2001; Shields & Bredemeier, 1995). In sport, the frequency of negative social-moral behaviour is growing at an alarming rate among athletes due to the inherent competitive nature of sport (Kavussanu, 2006; Shields, LaVoi, Bredemeier, & Power, 2007). This has led researchers to conduct studies to gain more understating and insights into moral behaviour in this context. Early research on morality has been extensively targeted towards understanding negative social behaviour (e.g., aggressive, unsportsmanlike, cheating behaviour, legitimacy of intentionally injurious acts, and moral reasoning). Recently, research investigating positive social behaviour (e.g., sportspersonship, congratulating a teammate, and helping an injured opponent) has taken place in sport. For an adequate understanding of sport morality, both positive and negative social behaviours must be taken into account (Kavussanu, 2008, 2012).

Recent research has started to examine both proactive (positive behaviour) and inhibitive (negative behaviour) aspects of morality (Bandura, 1999) using the terms prosocial and antisocial behaviour, respectively (e.g., Kavussanu, Seal, & Phillips, 2006; Sage & Kavussanu, 2008). Prosocial behaviour refers to voluntary behaviour intended to help or benefit another individual or group of individuals, such as sharing, helping, cooperating, and comforting behaviours (Eisenberg & Fabes, 1998). Eisenberg (1995) also agrees with the cognitive-social environment perspective adopted by Bandura (1991), in which cognition and

social environment are critical determinants in the development of prosocial behaviour. Examples of prosocial behaviour in sport are giving positive feedback to a teammate or helping an opponent player off the floor. In contrast, antisocial behaviour has been defined as behaviour intended to harm or disadvantage another individual (Sage, Kavussanu, & Duda, 2006); for instance, verbally abusing a teammate and criticizing an opponent. Prosocial and antisocial behaviours are both morally relevant because they can have consequences for others' rights and well-being (Turiel, 1983). These two terms have become very popular in the area of moral behaviour in sport (Kavussanu, 2012, 2008). Prosocial and antisocial behaviours are the main subjects of the present thesis.

Prosocial and antisocial behaviours have been measured in several studies using the Prosocial and Antisocial Behaviour Scale in Sport (PABSS) developed by Kavussanu and Boardley (2009). This scale was mainly designed to measure social-moral conduct taking place in different sports and across both sexes. The authors adopted a holistic perspective during the stages of the scale development. First, by focusing on both proactive and inhibitive morality (Bandura, 1999). Second, being grounded in the beliefs of some scholars (e.g., Bandura, 1999; Bredemeier & Shields, 1998), the PABSS focuses on overt behaviour. Third, the scale measures a wide range of prosocial and antisocial behaviours directed towards teammates and opponents, which is captured by four distinct and independent dimensions: prosocial behaviour towards teammates (e.g., "Encouraged a teammate"); antisocial behaviour towards teammates (e.g., "Swore with a teammate"); prosocial behaviour towards an opponent (e.g., "Helped an opponent off the floor"); and antisocial behaviour towards opponents (e.g., "Physically intimidated an opponent"). This suggests that players who engage in prosocial behaviour are no more or less likely to engage in antisocial behaviour. Therefore, all dimensions should be considered for a complete understanding of moral

behaviour. Fifth, the authors recruited a large sample of male and female athletes, aged from 12 to 64, from contact team sports: football, rugby, hockey, basketball, and netball.

As stated previously, prosocial and antisocial behaviours can be directed towards teammates or opponents. Also, these behaviours can occur at either a situational (i.e., competitive match) or contextual (i.e., sport season) level and are evident in both adolescent and adult team players (e.g., Boardley & Kavussanu, 2009; Hodge & Lonsdale, 2011; Kavussanu et al., 2006; Kavussanu, Stamp, Slade, & Ring, 2009). For example, in a match a player may help a teammate or an opponent off the floor, or a player may criticize a teammate or distract an opponent. Also, in a training session, teammates may provide constructive feedback towards each other regarding their coming match performance, or argue and verbally abuse those who practice poorly.

Prosocial and antisocial behaviours could be enacted for different reasons (motives). For instance, they could be performed for selfish reasons (i.e., one's personal benefit). A player who helps an injured player off the floor may have the intention to receive benefits such as material or social rewards. Antisocial behaviour could be also beneficial for a player who intentionally distracts an opponent to win a game. In contrast, asking to stop play when an opponent is injured could be beneficial only for the recipient. Thus, this behaviour is motivated by unselfish or altruistic reasons (i.e., concern towards others) as the actor is not expecting any personal benefit in return for engaging in such behaviour (Boardley & Kavussanu, 2009; Kavussanu, 2008).The motives and reasons behind actions are considered to be key factors in the moral labelling of behaviour and have been reviewed extensively (e.g., Eisenberg, Spinrad, & Sadovsky, 2006; Rest, 1984; Shields & Bredemeier, 1995); however, they are beyond the scope of the present thesis.

Initial work on prosocial and antisocial behaviours has mainly focused on investigating antecedents or predictors of these behaviours. A number of dispositional and social-

environmental variables, such as motivational climate, motivational regulations, goal orientations, coaching style, and moral identity have been identified as antecedents of these behaviours (e.g., Bruner, Boardley, & Côté, 2014; Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011; Kavussanu, 2006; Sage & Kavussanu, 2007, 2008; Sheehy & Hodge, 2015). Many other researchers have focused only on investigating variables that lead to or inhibit antisocial behaviour, such as moral disengagement, social identity, moral emotion, negative emotion, and empathy (e.g., Jones, Woodman, Barlow, & Roberts, 2017; Kavussanu, Ring, & Kavanagh, 2015; Kavussanu, Stanger, & Ring, 2015; Stanger, Kavussanu, Boardley, & Ring, 2013; Stanger, Kavussanu, & Ring, 2017; Stanger, Kavussanu, Willoughby, & Ring, 2012). For a comprehensive review, refer to Kavussanu and Stanger (2017). Thus, extensive research has been devoted to understanding the antecedents of prosocial and antisocial behaviours in sport. However, the potential consequences of these behaviours for the recipient have received scant research attention.

Consequences of Moral Behaviour for the Recipient

Prosocial and antisocial behaviours can have positive and negative consequences, respectively, for the recipient's physical and psychological well-being (Kavussanu & Boardley, 2009). However, as the motives for these behaviours are distinct, their potential consequences are also distinct based on the recipient: teammates or opponents. For example, perceived prosocial behaviour from one's teammates (e.g., providing positive feedback for a teammate) may enhance motivation and subsequent performance, not only for the recipient but also for the entire team, including the actor. In addition, one's teammates are stable, and their persistent behaviour could have lasting consequences for the recipient, as teammates could engage in such behaviour either during training or competition. Finally, coaches have a better opportunity to intervene regarding the potential consequences of teammate behaviours for instance, by promoting prosocial behaviour or deterring antisocial behaviour among

teammates. On the contrary, prosocial behaviour towards one's opponent (e.g., asking to stop play for an injured opponent) neither facilitates achievement for the actor nor the team. Also, coaches have no control over opponent behaviour and its potential consequences on their players. Finally, opponent behaviour can only occur during matches; thus, this will limit the investigation range of prosocial and antisocial behaviours.

In the achievement context of sport, a teammate is considered as a critical social agent with important implication for athletes' psychological and motivational outcomes (e.g., DeFreese & Smith, 2014; McLaren, Newland, Eys, & Newton, 2016; Ntoumanis & Vazou, 2005; Smith, 2007; Ullrich-French & Smith, 2006). The present thesis focuses on investigating only the potential consequences of perceived prosocial and antisocial teammate behaviours for the recipient within the team. It is possible that the players' perceptions of prosocial and antisocial teammate behaviours towards them could have consequences for the recipient's physical or psychological well-being (Kavussanu & Boardley, 2009). In addition, they may also have achievement-related consequences for the recipient.

Consequences of Prosocial and Antisocial Teammate Behaviours for the Recipient

Players engage in prosocial teammate behaviour to benefit or help the recipient. Behaviour such as encouraging and congratulating a teammate for good play, or providing positive and constructive feedback for a teammate in training or competitive matches reflect a sense of being caring, helpful, and concerned for the recipient and the entire team. Hence, perceptions of prosocial teammate behaviour could result in a supportive social environment that is predicted to facilitate and enhance the recipient's psychological well-being and sport-related achievement variables. In contrast, the defining characteristic of antisocial teammate behaviour (e.g., verbally abusing, swearing, arguing, criticizing, and showing frustration at a teammate's poor play) is its intention to harm athletes' psychological well-being and violate their rights. Thus, antisocial teammate behaviour could lead to perceiving a negative social

environment that may have negative consequences for the recipients' well-being and sport-related achievement variables, particularly for those with high sensitivity to criticism from others (Kavussanu & Boardley, 2009).

This thesis investigates the effects of perceived prosocial and antisocial teammate behaviours on the recipient's achievement-related consequences: effort, performance, commitment, attention, task cohesion, burnout, and affective outcomes. These variables were selected because (a) they are very important for achievement in athletics and (b) they could be highly influenced by the social-environmental factors, such as teammate social interactions, as evidenced by the existing research on peer relationships (e.g., DeFreese & Smith, 2014; Smith, 2007; Ullrich-French & Smith, 2006).

Effort and Performance

Effort and performance are the most important outcomes for athletes and coaches in the achievement context of sport. The amount of effort allocated to a task should indicate how an individual is motivated to perform that task (Maehr & Braskamp, 1986). Prosocial teammate behaviour (e.g., providing constructive and positive feedback for a teammate) may increase the recipients' trust in their abilities and motivate them to exert more effort. In contrast, antisocial teammate behaviour (e.g., criticizing and expressing frustration at a teammate's poor play) may demotivate the recipients from trying hard because the recipients may interpret such behaviour as their teammates having no trust in their athletic ability.

Evidence for the aforementioned propositions can be witnessed on peer motivational climate (Vazou, Ntoumanis, & Duda, 2006), a construct drawn from achievement goal theory that pertains to perceptions of the situational goal structure created by significant social agents (e.g., teachers, coaches, and peers) in the achievement context (Ames, 1992; Nicholls, 1989). In sport, there are two types of coach-initiated climate with different criteria for success: a mastery/task climate where the coach focuses on skill development, effort, and

individual improvement as criteria of success; whereas, in a performance/ego climate the coach emphasizes interpersonal competition with others, normative feedback, outperforming others, and public evaluation as criteria of success (e.g., Ames, 1992; Harwood, Spray, & Keegan, 2008; Newton, Duda, & Yin, 2000; Ntoumanis & Biddle, 1999).

Peer-initiated motivational climate refers to the degree to whether one's teammates emphasize the demonstration of personal improvement and effort, cooperative learning, and relatedness support (task-involving peer climate) versus competition among teammates and normative ability (ego-involving peer climate) in their team (Ntoumanis & Vazou, 2005). A task-involving peer climate encompasses a subscale-improvement that pertains to behaviours such as providing encouragement and feedback to teammates to improve, which share some similarities with prosocial behaviour, as they are voluntary and aim to produce positive consequences for the recipient (Eisenberg & Fabes, 1998; Kavussanu, 2012). Similarly, an ego-involving peer climate shares some features with antisocial behaviour, as one of its dimensions, intra-team conflict, refers to negative behaviours expected to undermine interpersonal relationships among teammates (e.g., criticizing and laughing at teammates when they make mistakes), which can also, as antisocial behaviour, have negative consequences for the recipient (Kavussanu, 2008, 2012). Although it is not in the scope of this thesis, intra-team conflict to fulfil a certain goal could be useful for the team. Previous research showed that certain types of intra-team conflict could benefit the quality of group decision making (e.g., Schulz-Hardt, Mayer, & Frey, 2002) and task cohesion (Sullivan & Feltz, 2001).

Perceptions of task-involving peer climate were positively related to coach-rated effort of young athletes (Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012). Similarly, a weak positive relationship was found between perceptions of task-involving peer climate and coach-rated effort (Vazou et al., 2006). On the contrary, perceptions of ego-involving peer

climate were negatively related to coach-rated effort (Ntoumanis et al., 2012; Vazou et al., 2006). Taken together, prosocial teammate behaviour may be positively related to effort, while antisocial teammate behaviour may be negatively related to effort.

Prosocial and antisocial teammate behaviours could affect the recipient's performance. Experimental research has shown that giving positive feedback with respect to participants' performance (e.g., "congratulations" & "well done") positively predicted perceived competence (proxy of actual performance) and coach-rated performance of top sport students in a shuttle-run task (Mouratidis, Vansteenkiste, Lens, & Sideridis, 2008). Also, a player who perceived performance-related positive feedback performed better in a hurdles running task (Escarti & Guzman, 1999). The recipients of prosocial teammate behaviour may perceive high performance as they may use their teammates' behaviour to evaluate their abilities (Smith, 2007). The reverse pattern of the relationship between antisocial teammate behaviour and perceived performance could be expected, whereby the recipients of such behaviour may evaluate their performance negatively. Hence, prosocial and antisocial teammate behaviours may be positively and negatively, respectively, related to perceived performance, which is defined as a self-evaluation of how an individual has performed at a specific task and is informed by objective performance (Dewar & Kavussanu, 2012; Graham, Kowalski, & Crocker, 2002), and actual performance (objective performance).

A psychological construct of Bandura's (1989) social cognitive theory that has been linked to behavioural and motivational outcomes is self-efficacy which is defined as "one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Wood & Bandura, 1989, p. 408). Stated differently, self-efficacy refers to one's beliefs in his/her own capabilities to produce designated levels of performance in order to achieve a certain outcome (Bandura, 1994). There are links that exist between self-efficacy, effort, and performance (e.g., Feltz, & Lirgg, 2001; George, 1994;

Gould, Greenleaf, Lauer, & Chung, 1999; Moritz, Feltz, Mack, & Fahrbach, 2000). Verbal persuasion and evaluative feedback from others are sources of self-efficacy (Bandura, 1994). Prosocial (e.g., verbally encouraging) and antisocial (e.g., criticizing) teammate behaviours may also influence the recipients' judgments of their own self-efficacy beliefs and thereby their abilities to perform and accomplish a task.

Commitment

Sport commitment is defined as "a psychological construct representing the desire and resolve to continue sport participation" (Scanlan, Carpenter, Lobel, & Simons, 1993, p. 6). Commitment represents one's enduring persistence and tendency to remain involved in a team over time (Scanlan, Russell, Beals, & Scanlan, 2003). It is assumed that social relationships play a substantial role for commitment (Carpenter 1992, 1995). For example, social support, which is defined as "feeling encouraged and supported by other people for playing" (Scanlan et al., 2003, p. 379), has been identified as a key source of commitment in the sport commitment model (e.g., Scanlan et al., 2003; Scanlan, Russell, Magyar, & Scanlan, 2009). Social support and prosocial teammate behaviour share some similarities, as both constructs have the intention to benefit others. Previously, teammate social support (e.g., my teammates encourage me to do my sport) and a perceived task-involving peer climate have been positively related to commitment (Santi, Bruton, Pietrantoni, & Mellalieu, 2014; Vazou et al., 2006). The recipient of prosocial teammate behaviour may have an enjoyable experience, and perceive a sense of support and encouragement from teammates, which are key predictors of commitment (e.g., Scanlan et al., 1993).

In consideration of the role of social relationships for commitment, engaging in antisocial behaviour among team members could negatively affect team commitment. Employees' interpersonal aggressive behaviour was related to low organizational commitment and increased intent to turnover (Aube & Rousseau, 2011; LeBlanc &

Kelloway, 2002). Antisocial behaviour such as verbally abusing, criticizing, and swearing are forms of aggressive behaviour, all of which could lead to a perception of unsupportive teammates and a negative sport environment. Therefore, athletes' perceptions of antisocial teammate behaviour may negatively affect their commitment to the team.

Attention

Another potential achievement-related consequence of antisocial teammate behaviour is attention, which involves the cognitive process of selectively focusing on task-relevant information while ignoring task-irrelevant (disruptive) information (e.g., Schmidt & Lee, 1999; Smith 1996). The recipients of prosocial teammate behaviour (e.g., receiving task-relevant constructive feedback from a teammate) may be encouraged and motivated to focus their attention on the task at hand in order to perform more effectively and help to complete the task successfully. Previous research has suggested that athletes' focus of attention can be shifted by their thoughts and emotions (e.g., Hatzigeorgiadis & Biddle, 2008; Kavussanu, Willoughby, & Ring, 2012; McCarthy, Allen, & Jones, 2013). That is, prosocial teammate behaviour could serve as a reminder for the recipients to maintain focus on a task and devote more attentional resources to attend task-relevant thoughts.

Previous research has suggested that athletes' focus of attention can be shifted by their thoughts and emotions (e.g., Hatzigeorgiadis & Biddle, 2008; Kavussanu et al., 2012; McCarthy et al., 2013); that is, thinking about or trying to respond to one's teammates' antisocial behaviour could direct the recipient's attentional focus away from task-relevant thoughts. Task-irrelevant thoughts may cause a reduction in the amount of attentional resources devoted to the task at hand (Wulf, 2013). In recent research, Lautenbach, Laborde, Putman, Angelidis, & Raab, (2016) showed that emotional task-irrelevant negative words, such as "loser", could cause an interference effect for professional athletes in a Stroop task. This effect was caused by higher attentional bias being directed towards negative sport-

relevant words. Hence, thinking about antisocial behaviour from one's teammate may occupy some of the attentional resources one allocates to a task. Emotions experienced by athletes during a competition may also distract attention away from the task (Lazarus, 2000). For example, the recipients' anger responses elicited by antisocial teammate behaviour, could detract their attentional focus directed toward a task. Thus, antisocial teammate behaviour cold be predictive of less attentional focus, both directly and indirectly through emotions.

Task Cohesion

Task cohesion refers to one's perceptions of the degree of unity possessed by team members when working together towards achieving the group's objectives (Eys, Loughead, Bray, & Carron, 2009a, 2009b). According to Carron and Spink's (1993) conceptual model of team building, task interaction and communication among teammates are key elements of group processes for building team cohesion. A recent study (Carron, Eys, & Martin, 2012) suggested that perceptions of positive interaction, encouragement, and constructive comments to improve team functioning may lead to perceive mutual interdependence and unity in pursuing task-relevant goals and subsequently perceive high task cohesion. Eys et al. (2009b) found that task support among teammates (e.g., cheering on teammates and saying they're doing a good job, good effort) was a very important aspect for developing task cohesion in youth sport. Also, task-involving peer motivational climate, which promotes cooperative learning, mutual support, and encouragement among teammates (Ntoumanis & Vazou, 2005), was positively related to task cohesion (García-Calvo et al., 2014). It makes sense that players being supported, encouraged, and provided with positive feedback from their teammates towards task fulfilment may perceive higher levels of task cohesion.

Antisocial teammate behaviour could create maladaptive relationships between teammates, which can obstruct athletes' perceptions of task cohesion in their team. The recipient of such behaviour may think that his/her role is not important for team performance

and players are not interdependent on each other towards achieving the team goals, and subsequently perceive a decreased level of task cohesion. This proposition could be supported by research showing that perceptions of intra-team conflict, a dimension of ego-involving peer climate, were negatively related to task cohesion (McLaren et al., 2016). A similar pattern of relationship was reported between intra-team conflict (e.g., showing anger at a teammate) and task cohesion (Sullivan & Feltz, 2001). Thus, it is likely that teammates who criticize and verbally abuse one another may perceive lower levels of task cohesion.

Athlete Burnout

Athlete burnout has been defined as a maladaptive multidimensional cognitive-affective syndrome characterized by three core dimensions (e.g., Raedeke, 1997; Raedeke & Smith, 2009): emotional and physical exhaustion, resulting from the physical and psychosocial demands of training and competition; reduced athletic accomplishment, which pertains to feeling of inefficacy and the tendency for a negative evaluation of one's performance; and sport devaluation, which refers to a negative and detached attitude towards sport involvement, reflected in a lack of concern for sport and performance. Burnout is associated with emotional, motivational, cognitive, and behavioural consequences (e.g., Eklund & DeFreese, 2015; Raedeke & Smith, 2009; Smith 1986). It is worth noting that many authors in the field consider emotional and physical exhaustion as the core dimension of burnout (e.g., Cresswell & Eklund, 2007; Shirom, 2005). However, a group of researchers has called for a multidimensional definition of burnout for a comprehensive understanding of burnout (e.g., Eklund & DeFreese, 2015; Gustafsson, Hassmén, Kenttä, & Johansson, 2008; Gustafsson, Kenttä, & Hassmén, 2011; Raedeke & Smith, 2009). The multidimensional definition of burnout is adopted in the present thesis.

Smith (1986) defines burnout as a psychological, emotional, and physical withdrawal from a previously enjoyable activity in response to chronic stress. Therefore, burnout is a

combination of situational, cognitive, physiological, and behavioural stress, resulting from an imbalance between demands (e.g., external pressure, competition, and training) and person's coping resources. However, other researchers (e.g., Coakley, 1992; Gould, Tuffey, Udry, & Loehr, 1996) assert that stress is not the only direct source of burnout. They argue that athlete burnout should be investigated as a psychosocial phenomenon because the social context of sport is a crucial determinant of burnout. This psychosocial perspective has received considerable support from recent research (e.g., Eklund & DeFreese, 2015; Gustafsson et al., 2008; Smith, Gustafsson, & Hassmén, 2010), which has indicated that teammates can effectively contribute to burnout. Both Smith's (1986) and the psychosocial perspectives of burnout are consistent with the effect of situational factors, which could include teammate behaviour, in burnout.

Prosocial teammate behaviour may enhance the recipients' ability to deal with stress of training and competition, and feel more confident about their performance, which, consequently, could make them less vulnerable to burnout. Such behaviour is expected to buffer the feeling of inefficacy, emotional and physical exhaustion, and the tendency to evaluate one's own performance negatively. Research has highlighted the role of social support, which refers to any patterns of social interactions aimed at inducing positive outcomes (Bianco & Eklund, 2001), in athletes' perceptions of burnout. Social support resembles prosocial behaviour; however, social support is a broader concept and does not capture sport-specific support behaviour relevant to the target population (Bianco & Eklund, 2001).

DeFreese and Smith (2014) found a negative relationship between athletes' perceptions of overall positive social interactions (i.e., from teammates, coaches, and trainers) and burnout. In a related study (DeFreese & Smith, 2013), athletes who perceived support availability and were satisfied with teammate social support, reported low burnout. However,

the authors did not find a relationship between support received from one's teammates and burnout. This could be attributed to the scale of received support used in the study, which was not specifically developed to capture supporting behaviour in the sporting arena, such as "provided you with some transportation" and "looked after a family member when you were away". This scale also has not been validated in sport.

Antisocial teammate behaviour could be a source of burnout. A team environment characterized by more frequent antisocial teammate behaviour could lead players to perceive high psychological and emotional demands, lack of support, and devaluate their performance. Highly demanding environments with low coping resources can cause psychosocial stress, which has been considered as a salient contributor to burnout (e.g., Gustafson et al., 2011; Raedeke & Smith, 2009; Smith, 1986). Therefore, the recipient of antisocial teammate behaviour could be more susceptible to be burned out. Indeed, negative social interactions (e.g., act angry or upset with you) and teammate conflicts (e.g., "make nasty comments to the less able teammates") have been positively linked with burnout (e.g., DeFreese & Smith, 2014; Gustafsson et al., 2008; Smith et al., 2010). Taken together, these findings suggest that perceived antisocial teammate behaviour may lead to burnout.

Affective Outcomes

Before proceeding with further discussion, it is important to define and clarify the distinction between two constructs: emotions and affect. Emotions are feeling states elicited by specific events or cognitive appraisal, either conscious or unconscious, of an event, and are characterized by high intensity and a short duration. Emotions consist of multiple components such as subjective experience, physiological change, cognitive processing, and facial expression (Fredrickson, 2001). Affect refers to neurophysiological responses (e.g., pleasure and displeasure or tension and relaxation), and often includes a component of mood and emotion (Ekkekakis & Petruzello, 2002). That is, emotions are immediate reactions to

something or specific objects in the athletes' environment (Lazarus 2000), while affect is not consciously connected to or elicited by specific objects (Ekkekakis, 2013).

The Theory of Challenge and Threat States in Athletes (TCTSA; Jones, Meijen, McCarthy, & Sheffield, 2009) provides a framework to understand affective responses in competitive sport environments. This theory proposes that emotional and physiological responses varied based on athletes' appraisals of a situation as a challenge (i.e., sufficient resources available to meet the demands) or as a threat (i.e., insufficient resources available to meet the demands). A challenge-appraised situation is likely to be associated with positive affective responses, whereas a threat-apprised situation is likely to be associated with negative affective responses (Jones et al., 2009). When athletes appraise that they have resources available in their team (e.g., teammates' encouragement and support) to copy with the demands of competition and training they may experience positive affective outcomes. In contrast, the recipients of antisocial teammate behaviours (e.g., verbal abuse and criticism from ones' teammates) may appraise their environment as threatening and distressful which may lead them to experience negative affective outcomes.

Prosocial behaviour is proposed to have positive consequences for the recipient's psychological well-being (Kavussanu & Boardley, 2009). The recipient of prosocial teammate behaviour can experience positive affective outcomes such as enjoyment, which is defined as a "positive affective response to the sport experience that reflects generalized feelings such as pleasure, liking, and fun" (Scanlan & Simons, 1992, p. 202–203) and positive affect, referred to the degree to which one feels enthusiastic, active, and alert, and has high energy, full concentration, and pleasurable engagement (Watson, Clark, & Tellegen, 1988). Bandura (1986) suggests that the social environment can activate individuals' affective responses. Athletes' perceptions of positive peer interaction have been positively linked with enjoyment and positive effect (Smith, 2007; Ullrich-French & Smith, 2006).

Also, a positive relationship was found between perceptions of a task-involving peer climate and enjoyment (Vazou et al., 2006).

The recipient of prosocial teammate behaviour may also experience positive emotions, such as happiness, which is experienced when individuals' appraisal of events or situations as beneficial and favourable for them, or as making progress towards attaining goals (Jones, Lane, Bray, Uphill, & Catlin, 2005; Lazarus, 2000). Teammates who encourage and provide positive feedback toward each other to attain their goals may perceive their team environment as favourable, and subsequently they may experience greater happiness. Previous research has shown that perceptions of positive peer interaction were associated with increased psychological well-being (DeFreese & Smith, 2014; Smith, 2007). Also, task-involving peer climate positively predicted vitality, "a positive feeling of aliveness and energy" (Ryan & Frederick, 1997; p. 529), which is an indicator of eudaimonic well-being (Ntoumanis et al., 2012). Taken together, prosocial teammate behaviour may lead the recipient to feel happy, enthusiastic, and active, as well as to experience enjoyable and pleasurable sport involvement. Therefore, prosocial teammate behaviour may be positively related to positive affective outcomes.

Antisocial teammate behaviour can also lead the recipient to feel negative affect, defined as "a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness" (Watson et al., 1988, p. 1063). Antisocial behaviour is assumed to harm the recipient's psychological well-being (Kavussanu & Boardley, 2009). DeFreese and Smith (2014) revealed that athletes' perceptions of negative peer interaction were positively related to negative affect and inversely related to athletes' well-being.

Being the recipient of criticism, verbal abuse, and frustration from ones' teammates could lead the recipient to experience negative emotions such as anger and anxiety. Anger

has been defined as an emotion comprising high arousal that results from an event perceived to be a "demeaning offence against me and mine" (Jones et al., 2005, p. 410), while anxiety is referred to uncertainty regarding goal attainment and coping, and is characterized by feelings of apprehension and tension, along with arousal of the autonomic nervous system (Jones et al., 2005). Research in organizations has demonstrated that perceptions of disrespectful treatment and offending acts elicited anger (Miller, 2001; Lazarus, 1991). Kunesh, Hasbrook, and Lewthwaite (1992) found that boys who perceived negative treatment in school sport activities, experienced anxiety. Also, a weak positive relationship has been found between athletes' perceptions of ego-involving peer climate and anxiety (Vazou et al., 2006). Moreover, perceptions of negative peer interaction were positively related to perceived stress (DeFreese & Smith, 2014). Based on the above, the recipient of antisocial teammate behaviour may feel anger, perceive external pressure, and experience unpleasurable sport participation due to perceived criticism and verbal abuse from teammates. Thus, antisocial teammate behaviour may be positively related to negative affective outcomes.

Potential Mediators

A review of the existing literature shows that some of the aforementioned variables could also serve as mediators in the effects of prosocial and antisocial teammate behaviours on the recipient's achievement-related consequences. Exploring the potential mechanisms that explain these relationships is deemed to be important for understanding moral behaviour in sport. Bandura (1986, 2001) has highlighted the psychological mechanisms of affective states in explaining the relationship between the social environment and individuals' behaviour, by which the social environment activates affective responses, which, in turn, determine subsequent behaviour. Thus, prosocial and antisocial teammate behaviours could be indirectly related to effort, perceived performance, commitment, task cohesion, and burnout through affective outcomes.

An encouraging body of empirical evidence supports the hypothesized indirect relationships through affective outcomes. For example, enjoyment has been linked to effort and performance (e.g., Cooke, Kavussanu, McIntyre, & Ring, 2013; Puca & Schmalt, 1999), commitment (Scanlan et al., 2003, 1993; Ullrich-French & Smith, 2009), and burnout (Price & Weiss, 2000; Raedeke & Smith, 2001). Also, positive affective responses have been related to task cohesion (Bruner et al., 2014; Eys et al., 2009a, 2009b). Recent studies of athlete burnout (Gustafsson, Skoog, Davis, Kenttä, & Haberl, 2015; Gustafsson, Skoog, Podlog, Lundqvist, & Wagnsson, 2013) showed an inverse association between positive affect and burnout. Therefore, as explained previously, prosocial teammate behaviour may be related to increased positive affective states, which, in turn, may be related to effort, perceived performance, commitment, task cohesion, and burnout.

Typically, negative affective outcomes have been associated with detrimental consequences. Studies have shown that anger is related to worse performance (e.g., Beedie, Terry, & Lane, 2000; Uphill, Groom, & Jones, 2012). Also, anger has been viewed as a facilitating effect for performance (Cerin, 2004; Robazza & Bortoli, 2007; Woodman et al., 2009). The facilitating effect was attributed to increased effort, which was accompanied by enhanced performance. Anger and anxiety were negatively related to task cohesion (Borrego, Cid, & Silva, 2012; Bosselut, Heuzé, Eys, & Bouthier, 2010; Eys, Hardy, Carron, & Beauchamp, 2003) plus they were the main emotional responses that increase susceptibility to burnout (Smith, 1986). Negative affect was positively related to burnout (Smith, 1986; Gustafsson et al., 2013, 2015; Lemyre, Treasure, & Roberts, 2006). Based on the literature, antisocial teammate behaviour may be related to elevated levels of negative affective states, which, in turn, may be related to effort, perceived performance, commitment, task cohesion, and burnout.

Effort is another potential mediator in the relationship between prosocial and antisocial teammate behaviours and perceived performance. Past research has demonstrated a consistent relationship between effort and performance (Cooke, Kavussanu, McIntyre, Boardley, & Ring, 2011; Cooke et al., 2013). Therefore, prosocial and antisocial teammate behaviours may have positive or negative effects, respectively, for the recipient's effort, which, in turn, may affect perceived performance accordingly. For example, prosocial teammate behaviour could encourage and motivate the recipients to put in more effort to improve their performance, and subsequently evaluate their performance positively.

Perceived performance may also mediate the prosocial and antisocial teammate behaviours-commitment relationships. Tsai Wen and Chang Kong (2010) found that sport performance is a significant predictor of team commitment. In addition, players' perceptions of competence, which is conceptually similar to perceived performance and a significant predictor of enjoyment (Carpenter & Scanlan, 1998), were positively related to commitment (e.g., Weiss & Weiss, 2007) and continued sport participation (Ullrich-French & Smith, 2009). Thus, the recipients of prosocial teammate behaviour may perceive their performance more favourably, and therefore may continue involvement with their team. In contrast, the recipients of antisocial teammate behaviour may tend to think they perform poorly, which, in turn, could negatively affect their levels of team commitment.

Motivational Climate as a Moderator

Coach-initiated motivational climate (defined earlier) has been shown to have important implications for moral behaviour and sport-achievement variables (e.g., Harwood et al., 2008; Kavussanu & Stanger, 2017; Ntoumanis & Biddle, 1999). Ames (1992) predicts that perceptions of mastery climate are associated with adaptive consequences, while perceptions of performance climate are associated with maladaptive consequences. These predictions have been supported in sport. Athletes' perceptions of coach-initiated mastery

climate were related to prosocial behaviour towards teammates, enjoyment, effort, perceived competence, and commitment (e.g., Boardley & Kavussanu, 2009; Kavussanu et al., 2009; Ntoumanis et al., 2012; Reinboth & Duda, 2004; van de Pol, Kavussanu, & Ring, 2012). On the contrary, athletes' perceptions of coach-initiated performance climate were related to antisocial behaviour towards teammates, tension, anxiety, less effort, and performance worry (e.g., Boardley & Kavussanu, 2009; Kavussanu et al., 2009; van de Pol et al., 2012; Vazou et al., 2006; Walling, Duda, & Chi, 1993).

As explained previously, mastery and performance climates, respectively, may moderate the effects of prosocial and antisocial teammate behaviours on enjoyment, anger, effort, perceived performance, and commitment. Moderation occurs when the magnitude or direction of the relationship between the independent variable and the dependent variable changes as a function of a third variable (Baron & Kenny, 1986). It is likely that the relationship between prosocial teammate behaviour and achievement-related consequences may be stronger when athletes perceive high mastery climate in their team, as this climate is predicted to result in an increase in adaptive consequences (e.g., high enjoyment, effort, and perceived competence). In contrast, the negative effect of antisocial teammate behaviour may be stronger for athletes with high perceptions of performance climate in which athletes are expected to display antisocial teammate behaviour and experience more anxiety and tension.

The matching hypothesis (Harackiewicz & Elliot, 1998) offers insight regarding the influence of the social environment characteristics in the achievement context. This hypothesis suggests the congruence between the goals embedded in the context (e.g., mastery climate) and the achievement goals adopted by an individual (e.g., skill improvement) is more important than the specific type of goal itself and leads to better outcomes. Context goals are congruent (match) with an individual's goals, when they both direct an individual towards the same goal (e.g., skill improvement). A series of experimental studies has been

conducted to examine this hypothesis (e.g., Harackiewicz & Elliot, 1993, 1998; Elliot & Harackiewicz, 1994). The results showed that the participants' levels of intrinsic motivation were moderated by the type of climate (e.g., mastery purpose goal). Specifically, when an individual is pursuing goals matching the type of climate they were assigned for, they reported more intrinsic motivation when playing pinball. To date, no researchers have investigated the potential moderating role of motivational climate in relation to prosocial and antisocial behaviours. Doing so will extend the current literature on sport morality.

Summary

Bandura (1999) states that morality has two aspects: proactive and inhibitive, which have been investigated as prosocial and antisocial behaviour, respectively, in sport. The development of the PABSS is the most significant contribution to sport morality literature. The PABSS enables researchers to gain a holistic perspective of overt prosocial and antisocial behaviours directed towards teammates and opponents (Kavussanu & Boardley, 2009). Research investigating prosocial and antisocial behaviours has primarily focused on antecedents of these behaviours (e.g., Kavussanu et al., 2015). However, little is known about the potential consequences of such behaviours for the recipient.

Bandura (1991) has asserted the importance of the consequences of one's behaviour for the recipient in determining behaviour as moral. Prosocial and antisocial behaviours can have positive and negative consequences, respectively, for athletes' physical and psychological well-being (Kavussanu &Boardley, 2009). This proposition has not yet been empirically examined. Prosocial and antisocial behaviours directed towards teammates can have more implications for achievement-related consequences. Teammates can play a significant role in athletic achievement (e.g., Smith, 2007). To date, no research has examined the potential achievement-related consequences of perceived prosocial and antisocial teammate behaviours for the recipient.

A review of past research shows that athletes who received performance-related positive feedback performed better and reported high perceived competence (e.g., Mouratidis et al., 2008). In addition, athletes' perceptions of negative social interaction patterns among teammates were positively related to coach-rated effort (e.g., Ntoumanis et al., 2012), task cohesion (e.g., Eys et al., 2009b), commitment (e.g., Santi et al., 2014), and positive affective outcomes (e.g., DeFreese & Smith, 2014), and negatively related to burnout (DeFreese & Smith, 2014). In contrast, perceptions of negative social interaction patterns were negatively related to commitment (e.g., Aube & Rousseau, 2011) and task cohesion (e.g., McLaren et al., 2016), and positively related to negative affective outcomes (e.g., Kunesh et al., 1991), and burnout (DeFreese & Smith, 2014). Finally, players' attentional focus was shifted away from the task being performed by emotional task-irrelevant negative words, thereby negatively affected their performance (Lautenbach, 2016). Based on this literature, prosocial and antisocial teammate behaviours may affect the recipient's effort, performance, commitment, attention, task cohesion, burnout, and affective outcomes.

Evidence has been also provided that affective outcomes were related to effort, performance (e.g., Cooke et al., 2013), commitment (e.g., Scanlan et al., 2003), task cohesion (e.g., Eys et al., 2003), and burnout (e.g., Gustafsson et al., 2015). Therefore, affective outcomes may mediate the effects of prosocial and antisocial teammate behaviours on effort, perceived performance, commitment, task cohesion, and burnout. This is in line with Bandura's (1999) social cognitive theory, which proposes that the affective state may serve as a mediator between the social environment and individuals' behaviour.

Effort and perceived performance may also mediate the effects of prosocial and antisocial teammate behaviours on perceived performance and commitment, respectively. Effort was consistently related to performance (e.g., Cooke et al., 2013). Performance and perceived competence have been positively linked to commitment (e.g., Ullrich-French &

Smith, 2009). Identifying the mechanisms through which prosocial and antisocial teammate behaviours may affect the recipient's achievement-related consequences is a valuable addition to the growing knowledge base on sport morality.

The matching hypothesis (Harackiewicz & Elliot, 1998) suggests that the match between goals established in a context (e.g., motivational climate) and individuals' achievement goals are beneficial for achievement outcomes. Athletes' perceptions of motivational climate have been related to prosocial and antisocial teammate behaviours, affective outcomes, effort, perceived competence, and commitment (e.g., Boardley & Kavussanu, 2009; Ntoumanis et al., 2012; Reinboth & Duda, 2004; van de Pol et al., 2012). Thus, motivational climate may moderate the effects of prosocial and antisocial teammate behaviours on enjoyment, anger, effort, perceived performance, and commitment. These potential relationships have not yet been examined. Such investigation is important for understanding the role of coaches as the highest social agent in sport. Therefore, studies have yet to examine how coach-created motivational climate may moderate the effects of prosocial and antisocial teammate behaviours on the recipient's achievement-related consequences.

Finally, the extant literature indicates that prosocial and antisocial behaviours can occur during competitive matches and the sport season in both adult and adolescent team sports (e.g., Boardley & Kavussanu, 2009; Kavussanu et al., 2006, 2009). Also, Bandura (1991) highlights that the immediate and long-range consequences of conduct could be used in the process of classifying the conduct as morally relevant. Therefore, investigating the consequences of engaging in prosocial and antisocial teammate behaviours during a competitive match (immediate consequences) and the long-term frequency of these behaviours in the sport season (long-range consequences) using adult and adolescent populations will offer a broader generalization of the thesis findings.

Aims of Thesis and Study Purposes

With the goal of increasing the understanding of the potential achievement-related consequences of prosocial and antisocial teammate behaviours for the recipient's performance-related outcomes (Studies 1, 2, and 3) and well-being (Study 4) across a variety of situations (competition and a sport season) and samples (adult and adolescent team sport athletes), this thesis has three purposes: first, to investigate the relationships between prosocial and antisocial teammate behaviours and the recipient's effort, performance, commitment, attention, task cohesion, burnout, and affective outcomes; second, to investigate affective outcomes, effort, and perceived performance as mediators of these relationships; and third, to investigate the moderating effect of motivational climate on the effects of prosocial and antisocial teammate behaviours on enjoyment, anger, effort, performance and commitment.

The purposes of study 1 (Chapter 2) were to examine: (a) whether prosocial and antisocial teammate behaviours are related to enjoyment, anger, effort, and perceived performance during a match, and commitment to play for one's team; (b) whether enjoyment and anger mediate the effects of prosocial and antisocial teammate behaviours on effort, perceived performance, and commitment; and (c) whether effort and perceived performance mediate the effects of prosocial and antisocial teammate behaviours on perceived performance and commitment, respectively. This study will use two independent samples of adult team sports: football and basketball.

The purposes of Study 2 (Chapter 3) were to (a) extend and replicate the findings of Study 1 in adolescent male soccer players and during matches of a competitive season and additionally investigating (b) whether mastery and performance climate, respectively, moderate the effects of prosocial and antisocial teammate behaviours on enjoyment, anger, effort, perceived performance, and commitment.

A limitation of Studies 1 and 2 was that they are cross-sectional, and thus cause and effect cannot be determined. Therefore, Study 3 (Chapter 4) experimentally investigates the effects of prosocial and antisocial teammate behaviours on happiness, anxiety, anger, and actual performance, using a sample of university students. Study 3 also extended Studies 1 and 2 by examining the effects of these behaviours on attention.

Study 4 (Chapter 5) looked at indices of intra-team functioning and well-being by examining (a) whether prosocial and antisocial teammate behaviours are related to task cohesion and burnout, and (b) whether positive and negative affect mediate the effects of prosocial and antisocial teammate behaviours, respectively, on task cohesion and burnout during training and competition of a competitive season with adult team sport players.

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CHAPTER TWO

Study 1: Consequences of Prosocial and Antisocial Behaviors for the Recipient

Abstract

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. This research 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). 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. 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. The findings demonstrate the importance of acting prosocially and not acting antisocially toward one's teammates and have implications for enjoyment, effort, performance, and commitment in sport.

Introduction

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, Ring, & Kavanagh, 2015; Kavussanu, Stanger, & Ring, 2015), little is known 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 & Boardley, 2009; Kavussanu, 2012).

Investigating prosocial and antisocial behaviors using both observational (e.g., Kavussanu et al., 2006, Kavussanu, Stamp, Slade, & Ring, 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 & Boardley, 2009; Kavussanu et al., 2009, 2006). The aim of the present research was to investigate potential consequences of prosocial and antisocial teammate behaviors for the recipient. This study 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 in relation to 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 among 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 in social cognitive theory (Bandura, 2001) as well as 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 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 physical education 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, McIntyre, Boardley, & Ring, 2011; Cooke, Kavussanu, McIntyre, & 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., Beedi, 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. This research examined cognitive (commitment), affective (enjoyment, anger) and behavioral (effort, performance) consequences of moral behavior. I focused 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).

Two studies 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. I refer to perceived performance as "performance" interchangeably with "perceived performance". I hypothesized that prosocial teammate behavior (to which is also referred hereafter as prosocial behavior) would be positively related to effort, enjoyment (e.g., Ntoumanis et al., 2012; Vazou et al., 2006), and perceived performance. I also expected that enjoyment would mediate the relationship between prosocial behavior and effort and

perceived performance (e.g., Cooke et al., 2013, 2011; van de Pol & Kavussanu, 2011). Conversely, I hypothesized that antisocial teammate behavior (to which is also referred 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, 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), I did not specify the direction of this relationship.

I sought to answer these questions in two studies using two independent samples of team sport athletes. I 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, I 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, I identified coaches of football teams, via the internet, contacted these coaches, and 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. Enjoyment was assessed 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. The five-item effort subscale of the Intrinsic Motivation Inventory (Ryan, 1982) was used 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. The four-item anger subscale of the Sport Emotion Questionnaire (Jones et al., 2005) was used 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 (.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 2.1. 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 on 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 can be considered as indicating adequate, very good, and excellent, internal consistency, respectively.

Table 2.1

Descriptive Statistics, Alpha Coefficients, and Zero-Order Correlations: Study 1 (N = 203)

Variables	*M*	*SD*	1	2	3	4	5	6
1. Prosocial behavior	3.71	0.69	(.87)					
2. Antisocial behavior	2.01	0.81	-.39***	(.88)				
3. Enjoyment	4.09	0.87	.26***	-.24**	(.94)			
4. Anger	2.30	1.07	-.06	.30***	-.48***	(.84)		
5. Effort	5.78	1.02	.35***	-.34 ***	.30***	-.06	(.80)	
6. Perc. Performance	6.79	1.25	.44***	-.23***	.50***	-.20**	.35***	(.87)
7. Outcome	0.16	0.92	.20***	-.17*	.37***	-.36***	.16*	.28***
8. Gender	–	–	-.02	-.25**	-.01	-.21**	-.10	-.05

Note: Perc. = Perceived. Outcome was coded as -1 = *lost*, 0 = draw, 1 = *won*; gender was coded as 0 = *male*, 1 = *female*. Possible range of scores: 1 to 5 for all variables except for effort (1-7) and performance (1-10). Alpha coefficients are presented in the diagonal

*p <.05; **p < .01; ***p < .001.

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, gender was controlled. To this end, I 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 2.2. In the description below, I have focused on the results that pertain directly to the study purposes.

First, I 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. 2 (top) and Figure. 2.1, 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 and performance, supporting the mediating role of enjoyment. In addition, as can be seen in Table 2.2 (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.

The same serial mediation analysis was used 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 2.2 (bottom) and Figure. 2.1, antisocial behavior had a negative effect on effort, and a positive effect on anger, supporting the 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 of antisocial behavior on effort via anger (Table 2.2, bottom). The total effect of antisocial behavior on effort was negative and significant, while the total effect on performance was not significant.

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

Table 2.2
Direct, indirect, and total effects of prosocial and antisocial behaviors on effort and performance: Study 1

Pathways		*B*	95% CI	CSIE	95% CI
		Prosocial Behavior			
Direct effects					
Prosocial behavior	→Enjoyment	.268**	.105, .430		
	→Effort	.282**	.077, .486		
	→Performance	.521**	.290, .752		
Enjoyment	→Effort	.305**	.133, .478		
	→Performance	.569**	.372, .766		
Effort	→Performance	.162*	.006, .318		
Indirect effects on effort via					
Enjoyment		.082*	.030, .167	.054	.020, .110
Total effect		.363**	.158, .568		
Indirect effects on performance via					
Enjoyment		.152*	.085, .281	.081	.036, .139
Effort		.046*	.003, .130	.024	.001, .068
Enjoyment and effort		.013*	.001, .041	.007	.001, .021
Total indirect effect		.211*	.103, .353	.112	.056, .177
Total effect		.732**	.488, .976		
		Antisocial Behavior			
Direct effects					
Antisocial behavior	→Anger	.267**	.092, .443		
	→Effort	–.326**	–.508, –.133		
	→Performance	.015	–.192, .223		
Anger	→Effort	.140*	.005, .282		
	→Performance	.019	–.140, .177		
Indirect effects on effort via					
Anger		.037*	.005, .097	.029	.004, .101
Total effect		–.289*	–.468, –.110		
Indirect effects on performance via					
Anger		.005	–.041, .058	.004	–.031, .040
Effort		–.053*	–.160, –.001	–.037	–.108, –.001
Anger and effort		.006*	.001, .024	.004	.001, .016
Total indirect effect		–.042	–.138, .025	–.030	–.094, .018
Total effect		–.026	–.225, .172		

Note: The term performance refers to perceived performance. Bootstrap sample size = 5000. CSIE = completely standardized indirect effect. *p <.05; **p < .01.

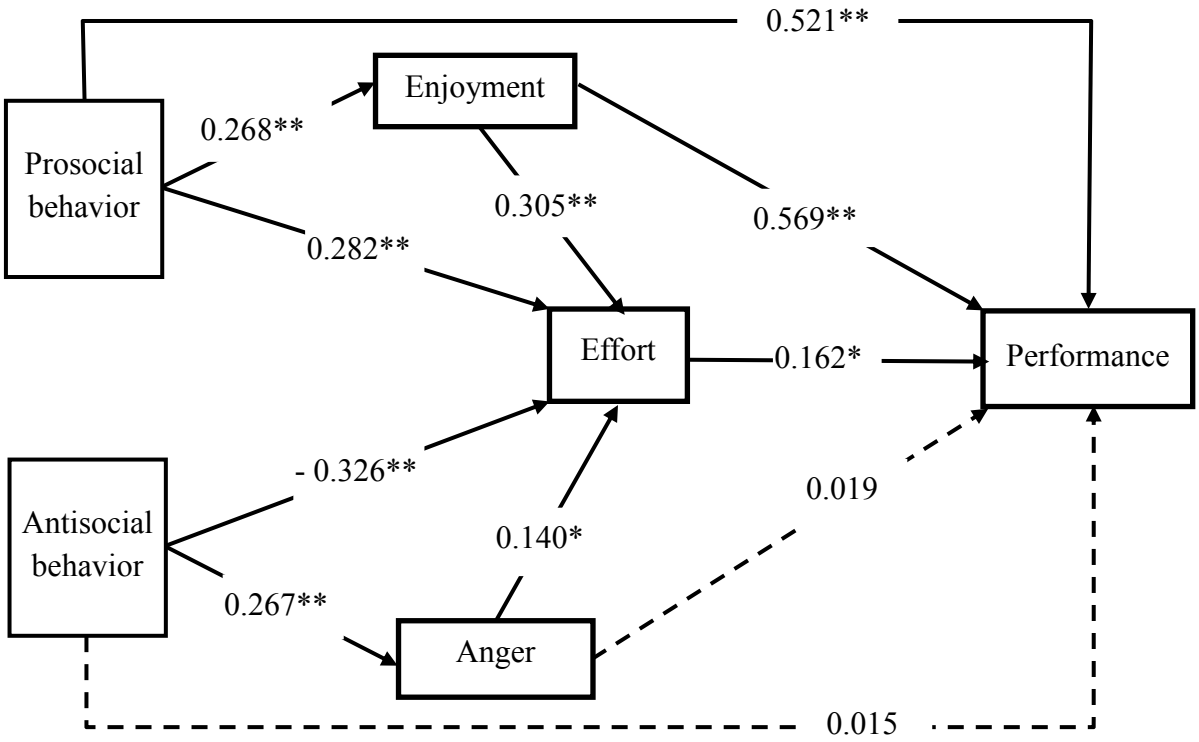

Figure 2.1. Serial multiple mediation models for the direct and indirect effects of prosocial and antisocial behavior on performance: Study 1. The coefficients presented are unstandardized regression coefficients. The term performance refers to perceived performance. *Note*: solid lines represent significant relationships. Dashed lines represent non-significant relationships.

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

Study 2

The results of Study 1 broadly supported the 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. Study 2 aimed to determine whether these findings would be replicated with a different sample and team sport.

Study 2 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, I 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 with their team.

I 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., 2003, 1993; 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, prosocial teammate behavior is hypothesized to lead to higher commitment, because such behavior is expected to create an enjoyable experience for the players. Perceived performance is also expected to 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, I 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 (Aube, & Rousseau, 2011; LeBlanc & Kelloway, 2002).

In sum, in Study 2 has the following hypotheses: First, I hypothesized that Study 1 findings would be replicated in a sample from another team sport (i.e., basketball). Second, I 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). Study 2 also examined whether prosocial behavior would be related to commitment indirectly through its

serial effects on (a) effort and perceived performance and (b) enjoyment, effort, and perceived performance. Finally, I hypothesized that antisocial behavior would be negatively related to commitment (e.g., Aube, & 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. Commitment was measured 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 alpha coefficients for all variables are presented in Table 2.3. 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).

Table 2.3

Descriptive Statistics, Alpha Coefficients, and Zero-Order Correlations: Study 2 (N = 281)

Variables	*M*	*SD*	1	2	3	4	5	6	7
1. Prosocial behavior	3.44	0.85	(.82)						
2. Antisocial behavior	1.43	0.50	-.11	(.71)					
3. Enjoyment	3.84	0.98	.41***	-.21***	(.96)				
4. Anger	1.90	0.85	-.01	.28***	-.26***	(.84)			
5. Effort	6.06	0.92	.27***	-.21***	.30***	.07	(.86)		
6. Perc. Performance	6.74	1.22	.34***	-.34***	.38***	-.07	.40***	(.83)	
7. Commitment	3.81	0.92	.45***	-.11	.44***	.02	.30***	.35***	(.91)
8. Outcome	0.62	0.49	-.08	-.02	.31*	-.29***	-.06	.14*	.12
9. Gender	–	–	-.14*	.33**	.10	-.34***	.14*	.06	-.00

Note: Perc. = Perceived. Outcome was coded as 0 = *lost*, 1 = *won*; gender was coded as 0 = *male*, 1 = *female*. Possible range of scores: 1 to 5 for all variables except for effort (1-7) and performance (1-10). Alpha coefficients are presented in the diagonal.

*p <.05; **p < .01; ***p < .001.

Main analyses.

Similar to the analyses conducted in Study 1, the PROCESS (Hayes, 2013) SPSS macro was used to examine study 2 purposes. First, I 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, antisocial behavior was controlled, anger, and gender. A summary of all direct, indirect, and total effects can be seen in Table 2.4 (top). As Table 2.4 and Figure. 2.2 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 the study hypotheses. Prosocial behaviour was found to have 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, I 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 2.4 (bottom) and Figure. 2.2. 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. I also found that the effect of antisocial behavior on performance was positively mediated by the serial effects of anger and then effort. However, the total effect of antisocial behavior on performance (i.e., direct and indirect effects via anger and effort) was negative (see Table 2.4, bottom) suggesting that when all variables and effects are taken into consideration, antisocial behavior has a negative effect on performance.

Finally, I examined whether prosocial behavior was associated with commitment and whether enjoyment and performance mediated this relationship; in these analyses, antisocial

behavior and anger were included as covariates. The results are presented in Table 2.5 (top) and Figure. 2.2. 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.

Study 2 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 2.5 (bottom) and Figure. 2.2, 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.

Table 2.4

Direct, indirect and total effects of prosocial and antisocial behaviors on effort and performance: Study 2

Pathways		*B*	95% CI	CSIE	95% CI
		Prosocial Behavior			
Direct effects					
Prosocial behavior	→Enjoyment	.455**	.336, .573		
	→Effort	.207**	.078, .337		
	→Performance	.213**	.043, .313		
Enjoyment	→Effort	.212**	.095, .330		
	→Performance	.270**	.130, .409		
Effort	→Performance	.299**	.161, .437		
Indirect effects on effort via					
Enjoyment		.096*	.046, .161	.091	.045, .151
Total effect		.304**	.183, .424		
Indirect effects on performance via					
Enjoyment		.122*	.055, .203	.095	.043, .154
Effort		.062*	.022, .126	.048	.018, .097
Enjoyment and effort		.029*	.013, .057	.022	.010, .043
Total indirect effect		.213*	.133, .312	.198	.122, .285
Total effect		.373**	.227, .520		
		Antisocial Behavior			
Direct effects					
Antisocial behavior	→Anger	.262**	.062, .462		
	→Effort	–.292**	–.511, –.073		
	→Performance	–.434**	–.691, –.176		
Anger	→Effort	.255**	.127, .383		
	→Performance	.030	–.183, .124		
Indirect effects on effort via					
Anger		.067*	.015, .157	.035	.009, .079
Total effect		–.225*	–.447, –.003		
Indirect effects on performance via					
Anger		–.008	–.063, .033	–.033	–.027, .014
Effort		–.087*	–.190, –.024	–.039	–.081, –.011
Anger and effort		.020*	.005, .055	.009	.002, .023
Total indirect effect		–.075	–.184, .008	–.033	–.078, .004
Total effect		–.509**	–.768, –.250		

Note: The term performance refers to perceived performance Bootstrap sample size = 5000. CSIE = completely standardized indirect effect.
*p <.05; **p < .01.

Table 2.5

Direct, indirect and total effects of prosocial and antisocial behaviors on commitment: Study 2

Pathways		*B*	95% CI	CSIE	95% CI
		Prosocial Behavior			
Direct effects					
Prosocial behavior	→Commitment	.296**	.175, .417		
Enjoyment	→Commitment	.276**	.13, .389		
Effort	→Commitment	.082	–.030, .194		
Performance	→Commitment	.111*	.018, .204		
Indirect effects on commitment via					
Enjoyment		.125*	.065, .196	.137	.072, .210
Performance		.019*	.002, .053	.016	.001, .049
Enjoyment and performance		.014*	.002, .033	.012	.002, .030
Effort and performance		.007*	.001, .021	.006	.001, .019
Enjoyment, effort, and performance		.003*	.001, .009	.003	.001, .008
Total indirect effect		.192*	.125, .275	.176	.117, .248
Total effect		.488**	.372, .604		
		Antisocial Behavior			
Direct effects					
Antisocial behavior	→ Commitment	.023	–.183, .230		
Anger	→ Commitment	.094	–.030, .246		
Indirect effects on commitment via					
Performance		–.048*	–.115, –.004	–.028	–.067, –.003
Effort and performance		–.006*	–.031, –.001	–.006	–.018, –.001
Anger, effort, and performance		.002*	.001, .009	.001	.001, .005
Total indirect effect		–.042	–.126, .036	–.025	–.075, .020
Total effect		–.019	–.221, .184		

Note: The term performance refers to perceived performance. Bootstrap sample size = 5000. CSIE = completely standardized indirect effect.
*p <.05; **p < .01.

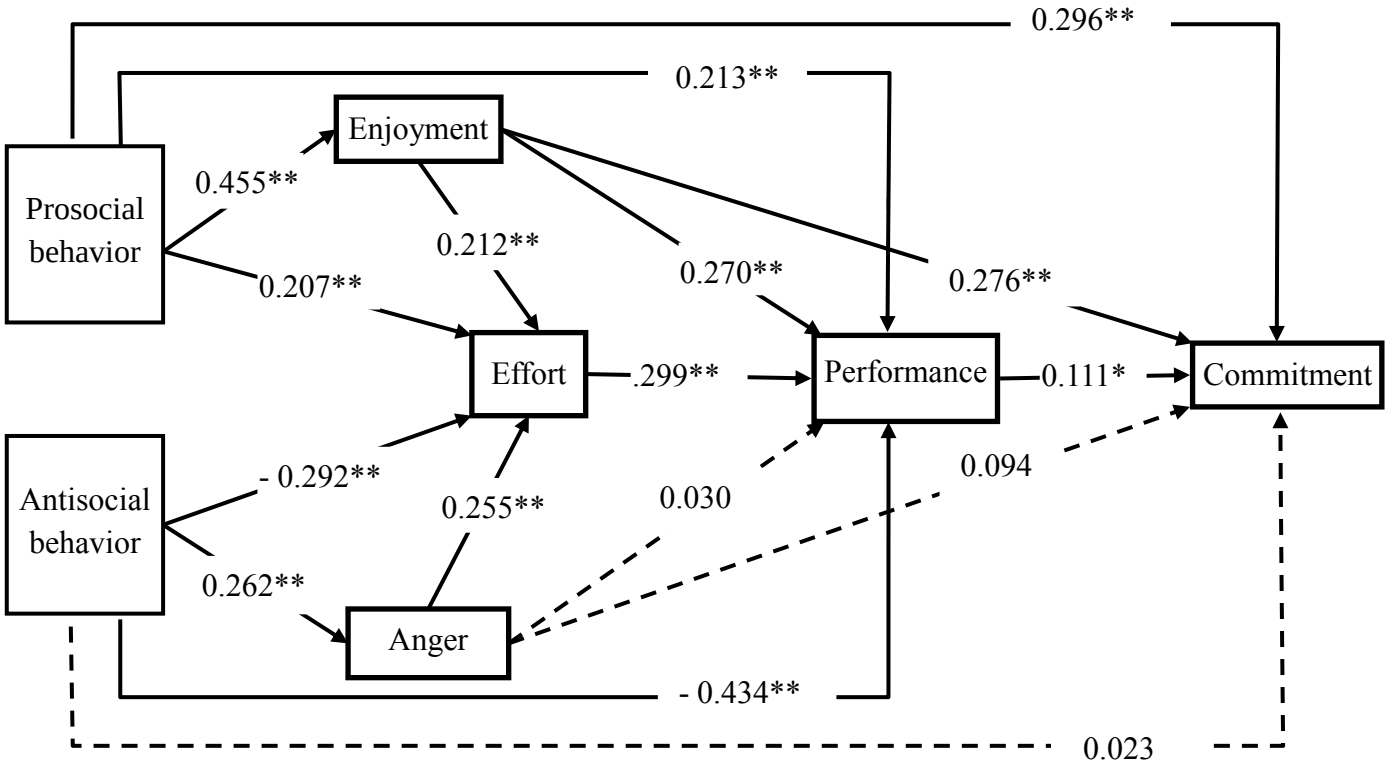

Figure 2.2. Serial multiple mediation models for the direct and indirect effects of prosocial and antisocial behavior on commitment: Study 2. The coefficients presented are unstandardized regression coefficients. The term performance refers to perceived performance.

Note: solid lines represent significant relationships. Dashed lines represent non-significant relationships.

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

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. Two studies were conducted 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. I 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 task-involving peer climate were positively associated with effort and enjoyment (Ntoumanis et al., 2012; Vazou et al., 2006). Research on peer motivational climate has investigated social behaviors in relation to emphasizing effort and improvement, whereas I did not link teammate behaviors to these specific variables. The present findings highlight the importance of a teammate's prosocial behavior 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. The 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.

Study 2 also examined the relationship between prosocial behavior and commitment and whether this relationship was mediated by enjoyment and perceived performance. Consistent with the research 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, Scanlan, Simons, & Lobel, 1993; Tsai Wen & Chang Kong, 2010; Weiss & Weiss, 2007).

Consequences of Antisocial Behavior

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 research 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 on court, 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 the present 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 the 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 my 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 the findings are consistent with the proposed mediation models 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 I hypothesized and tested the 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, football and basketball players only were recruited. 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, I 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, the study 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, the preset 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. I 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 2.1 and 2.2. Neither outcome of the game nor score difference moderated these relationships in either study.

[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 2.1 and 2.2.

[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, $p<.01$, $\eta_p^2 = .04$. 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, $p<.05$, $\eta_p^2 = .03$. 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).

CHAPTER THREE

Study 2: Consequences of Prosocial and Antisocial Behaviors among Adolescent Male Soccer Players

Abstract

The study examined (a) the effects of prosocial and antisocial teammate behaviors on the recipient's enjoyment, anger, effort, perceived performance during matches of a sport season, and team commitment; (b) the mediating role of anger, enjoyment, and perceived performance on these effects; and (c) whether any of these effects are moderated by motivational climate. Adolescent male soccer players (*N*=358, *M* age =14.48yr) completed questionnaires assessing the aforementioned variables. Structural equation modeling indicated that prosocial teammate behavior was positively related to effort, perceived performance, and commitment and these relationships were mediated by enjoyment. Antisocial teammate behavior was positively related to anger and negatively related to effort and perceived performance. The effects of prosocial teammate behavior on perceived performance and commitment were mediated by effort and perceived performance, respectively. Moderation analyses revealed that mastery and (performance) climates moderated the effects of prosocial and (antisocial) teammate behaviors on enjoyment and (perceived performance), with a stronger relationship at high levels of the climates. The study findings highlight the potential consequences of prosocial and antisocial teammate behaviors and the importance of coach-created motivational climate among adolescents.

Introduction

Prosocial and antisocial behaviors have received much attention in research investigating moral behavior in sport over the past two decades (see Kavussanu, 2012; Kavussanu & Stanger, 2017). Prosocial behavior is voluntary behavior intended to help or benefit another individual or group of individuals (Eisenberg & Fabes, 1998), for example, helping a player off the floor or congratulating another player after good play, while antisocial behavior is behavior intended to harm or disadvantage others (Sage, Kavussanu, & Duda, 2006), for example, verbally abusing or trying to injure another player. Both prosocial and antisocial behaviors take place in sport (Kavussanu & Boardley, 2009), and a large number of studies have examined antecedents of these behaviors (see Kavussanu, 2012; Kavussanu & Stanger, 2017). Recently, researchers have started to investigate consequences of some of these behaviors for the recipient (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi, Kavussanu, & Ring, 2016).

Research pertaining to prosocial and antisocial behaviors has been guided by the social cognitive theory of moral thought and action (Bandura, 1991). This theory proposes that the social environment (e.g., significant others, peers) plays an important role in shaping individuals' thoughts, feelings, and behaviors; the person and social environment function as interacting determinants affecting each other bidirectionally. Bandura (1991) also argued that one should determine the morality of the conduct by considering the consequences behavior has for others. For example, one's transgressive acts can have negative consequences for the recipient, regardless of the thoughts or motives for committing such acts. Bandura (1999) has also distinguished between two aspects of morality, proactive and inhibitive, which pertain to the power to act humanely and refrain from acting inhumanely toward others, respectively. In the context of sport, the terms prosocial and antisocial behaviors refer to these two aspects of morality (Kavussanu & Boardley, 2009).

Consequences of Prosocial and Antisocial behavior

Past research (e.g., Hodge & Lonsdale, 2011; Kavussanu & Boardley, 2009; Kavussanu, Stanger, & Boardley, 2013; Kavussanu, Stanger, & Ring, 2015) has examined prosocial and antisocial behaviors toward teammates (e.g., congratulating or verbally abusing a teammate) or opponents (e.g., helping an injured opponent and criticizing an opponent). Thus, these behaviors could also have distinct consequences for the recipient. The present research focused on prosocial and antisocial behaviors directed only toward teammates, because these behaviors compared to the opponent ones, can have consequences for motivation and subsequent performance of the recipient and the entire team (Kavussanu & Boardley, 2009). In addition, one has more contact with teammates than opponents, therefore teammate behaviors should have more lasting consequences.

The potential consequences of prosocial and antisocial teammate behaviors have been investigated in two studies, both of which employed adult athletes. In the first study, Al-Yaaribi et al. (2016) asked soccer and basketball players right after a match to report the frequency of their teammates' prosocial and antisocial behaviors toward them, and their own enjoyment, anger, effort, and performance during the match; participants also indicated their commitment for playing for their team. The results showed that perceived prosocial teammate behavior was positively related to the recipient's effort, performance, and commitment, and enjoyment mediated these relationships. In contrast, the recipients of antisocial teammate behavior reported more anger, less effort, and lower performance. Antisocial teammate behavior was also indirectly related to effort and commitment via anger and performance, respectively. The second study (Al-Yaaribi & Kavussanu, 2017) showed that perceptions of prosocial teammate behavior during a sport season were positively related to task cohesion and negatively related to burnout both directly and indirectly via positive affect. The reverse

pattern of relationships was observed between antisocial teammate behavior and task cohesion and burnout, with negative affect mediating these relationships.

To date, no study has investigated consequences of teammate prosocial and antisocial behaviors in adolescents. However, the presence of such behaviors in adolescents has been reported in previous research. For example, Shields, Bredemeier, LaVoi and Power (2005) assessed athletes' perceptions of sport-related poor (similar to antisocial) and good (similar to prosocial) behaviors. Results showed that athletes reported high frequency of poor sport behavior and 13% of them admitted having made fun of a less-skilled teammate. In contrast, approximately 89-96% of athletes acknowledged that their teammates engaged in prosocial behavior as reflected by two items 'on our team we try our best to be good sports' and 'on our team we encourage each other to be good sports'. Also, Shields, LaVoi, Bredemeier, and Power (2007) found a high rate of poor (sportspersonship) sport behaviors (e.g., "say things to hurt, anger, or upset an opponent", "make fun of a less skilled teammate") with males reported of such behaviors more than females. The poor sportspersonship concept refers to sport behaviors "that carry moral connotations because of their connection to fundamental issues of fairness and respect" (Shields et al., 2007, p. 747).

In a study of adolescent soccer players, Omli and LaVoi (2009) found that players reported moderate frequency of negative verbal behavior (e.g., yelling at teammates) with peak incidents of such behavior around the age of 16. In addition, Kavussanu, Seal, and Phillips (2006) observed prosocial and antisocial behaviors on videotaped soccer games of male players (aged 12-17). Their results showed that the players displayed more antisocial behavior than prosocial behavior. The literature provides a good reason for further investigation of prosocial and antisocial behaviors in athletic adolescents. Examining the consequences of these behaviors among teammates will extend the understanding of moral behavior in sport and the generalizability of Al-Yaaribi et al.'s (2016) findings.

The Effect of Motivational Climate

A social-environmental variable has been linked to moral behavior in sport is motivational climate. This construct, which is drawn from achievement goal theory (Nicholls, 1989), refers to the situational goal structure created by significant others such as coaches (Ames, 1992), and is typically assessed via athletes' perceptions (e.g., van de Pol, Kavussanu, & Ring, 2012). Two distinct types of motivational climate have been examined in sport: mastery and performance (Ames, 1992). In a mastery climate, the focus of the coach is on skill development, effort, and individual improvement, whereas in a performance climate the emphasis is on interpersonal comparison with others, normative feedback, and public evaluation. Players' perceptions of motivational climate can affect their ways of approaching an achievement task and the criteria used to define success and failure (Ames, 1992; Ames & Archer, 1988).

In sport, mastery and performance motivational climates have generally been proposed to be associated with adaptive and maladaptive achievement-related outcomes, respectively. For example, perceptions of coach-created mastery climate have been linked with prosocial behavior toward teammates, enjoyment, effort, perceived competence (ability), and commitment (e.g., Boardley & Kavussanu, 2009; Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012; Reinboth & Duda, 2004; van de Pol et al., 2012), whereas perceptions of coach-created performance climate have been associated with antisocial behavior toward teammates, tension, anxiety, less effort, and intention to drop out (e.g., Boardley & Kavussanu, 2009; van de Pol et al., 2012; Vazou, Ntoumanis, & Duda, 2006). It is possible that the relationship between teammate behaviors and outcomes may vary depending on players' perceptions of motivational climate in their team. However, no study to date has investigated this issue.

The importance of the contextual factors has been highlighted by the matching hypothesis (Harackiewicz & Sansone, 1991), which argues that outcomes such as the achievement-related goals depend on the general context in which goals are pursued. This hypothesis also suggests that the degree of match or fit between the goals of context and an individual plays a critical role for a variety of cognitive, affective, and behavioral outcomes. Goals are congruent with (match) the context, when both lead an individual toward the same end. Harackiewicz and Elliot (1998) provided support for the matching hypothesis. They found that the type of climate (i.e., mastery or performance goals) to which participants were assigned, moderated their intrinsic motivation in a pinball study. Hence, being in a mastery-oriented team, where players are encouraged to develop individual skills and more likely to experience enjoyment, can augment the positive relationship between prosocial teammate behavior and the recipient's enjoyment. That is, the congruent goals of mastery climate and prosocial teammate behavior may enhance the amount of enjoyment experienced by the recipient. To date, no study has examined whether motivational climate moderates the effects of prosocial and antisocial behaviors on outcomes.

The Present Study

In sum, most of previous research has focused on antecedents of prosocial and antisocial behaviors, particularly those directed toward opponents (see for reviews, Kavussanu & Stanger, 2017). Although the potential consequences of these behaviors for the recipient have been investigated (e.g., Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016) in adult athletes, it is unknown whether previous findings are replicated in a younger sample of athletes. In this study, male soccer players were used because this population tends to perceive and report high frequency of prosocial and antisocial teammate behaviors (e.g., Al-Yaaribi et al., 2016; Kavussanu & Boardley, 2009; Kavussanu, Stamp, Slade, & Ring, 2009; Shields et al., 2007) with one study showing that prosocial and antisocial behaviors

were higher in male soccer players than other team sports such as basketball, hockey, and netball (Kavussanu & Boardley, 2009).

The first purpose of this study was to examine whether the findings of Al-Yaaribi et al. (2016) in adult athletes are replicated in adolescent soccer players. Specifically, I investigated whether prosocial and antisocial teammate behaviors (hereafter referred to as prosocial and antisocial behaviors) predict enjoyment, anger, effort, perceived performance (hereafter referred to as performance), and commitment, and whether enjoyment, anger, and performance mediate these relationships. I hypothesized that prosocial behavior would be positively related to effort, performance, and commitment and these relationships would be mediated by enjoyment. Performance is also expected would mediate the prosocial behavior-commitment relationship. In contrast, I hypothesized that: (a) antisocial behavior would be positively related to anger and negatively related to effort and performance; (b) anger would mediate the relationship between antisocial behavior and effort; and (c) performance would mediate the antisocial behavior-commitment relationship.

The second purpose of this study was to extend the work of Al-Yaaribi et al. (2016) by examining whether motivational climate moderates the relationships between prosocial and antisocial behaviors, enjoyment, anger, effort, performance, and commitment. Based on the matching hypothesis (Harackiewicz & Sansone, 1991), I expected that motivational climate would strengthen the magnitude of these relationships. For example, when mastery climate is high I expected a stronger relationship between prosocial behavior and outcomes such as enjoyment (e.g., Ntoumanis et al., 2012). Similarly, I expected that when performance climate is high, antisocial behavior would be more strongly (and inversely) associated with outcomes such as performance (e.g., van de Pol et al., 2012).

Method

Participants were 358 male soccer players, aged 10-18 years (M = 14.48 SD = 2.19), recruited from 15 clubs in the United Kingdom. At the time of data collection, they had played for an average of 2.83 (SD = 2.15) years for their current team at various levels of competition: local (n = 210; 58.3%), district (n = 27; 7.5%), academy (n = 59; 16.4%), club (n = 53; 17.7%), national (n = 6; 1.7%), and other (n = 5; 1.4%). Finally, they had played 1-4 (15.6 %), 5-8 (13.6 %), 9-12 (24.4 %), 13-16 (18.9 %), 17-20 (11.7 %), and 21 or more (15.8 %) competitive matches for their teams during the season.

Procedure

Once ethical approval from the University Ethics Committee was obtained, I sent to soccer coaches an introductory letter outlining the aims and protocol of the study with example items of the questionnaire. After coaches agreed to help with data collection, information sheets and parental consent forms were distributed either by the first author or one of the research assistants. Participants who returned the signed parental consent form were eligible to take part in the study. Either prior or after a training session, they were informed about the study, that participation was voluntary, they could withdraw at any time, and data would be used only for research purposes and kept confidential. Participants were asked to think about matches they played during the season and complete the questionnaire individually. The measures in the questionnaire were counterbalanced to avoid order effects. Data collection was initiated 3-6 months after the season had started, as a period of 2–6 weeks is enough time for perceived motivational climate to be established (Reinboth & Duda, 2006).

Measures

Teammate behavior. Athletes' perceptions of teammate behavior were measured using adapted versions of the teammate behavior subscales of the Prosocial and Antisocial

Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009). The prosocial teammate behavior scale consists of four items measuring behaviors toward teammates (e.g., giving constructive feedback to a teammate, encouraging a teammate). The antisocial teammate behavior subscale consists of five items (e.g., criticizing a teammate, verbally abusing a teammate). In line with previous research, an additional item (supported me) was added to increase prosocial teammate behavior scale's internal reliability (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016). Participants were asked to indicate how often their teammates had engaged in each behavior toward them during matches played in the season the data collection took place. They responded to the stem "This season, my teammates…" followed by items referring to prosocial (e.g., encouraged me) and antisocial (e.g., verbally abused me) behaviors on a 5-point Likert scale anchored by 1 (*never*) to 5 (*very often*). The adapted version of teammate behavior subscales has shown acceptable levels of internal consistency and confirmatory factor analysis has shown a very good fit to the data (Al-Yaaribi et al., 2016).

Enjoyment. Enjoyment was assessed with the four-item enjoyment subscale of the Sport Commitment Model (Scanlan, Carpenter, Simons, & Schmidt, 1993). Participants were asked to answer four questions regarding their level of enjoyment during matches played in the season on a Likert scale ranging from 1 (*not at all*) to 5 (*very much*). Example questions are: "Did you like playing for this team? and "Did you have fun playing for this team?" The psychometric properties of this subscale were strong ($\alpha \geq .90$) with youth sport participants (Scanlan et al., 1993).

Anger. The anger subscale of the Sport Emotion Questionnaire (SEQ; Jones, Lane, Bray, Uphill, & Catlin, 2005) was used to assess anger experienced by the players during matches played in the season. The subscale consists of four items (e.g., irritated, annoyed). Players were asked to recall to what extent they felt this way and to respond to the stem

"During the matches I have played this season, I felt…" by responding on a Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). This subscale has shown very good internal consistency (α = .84; Jones et al., 2005).

Effort. The effort subscale of the Intrinsic Motivation Inventory (Ryan, 1982) was used to measure participants' effort exerted during matches they played in the season. Reponses ranged from 1 (*not true at all*) to 7 (*very true*) on a 5-point Likert scale. The stem was "During the matches I have played this season," followed by four items measuring effort (e.g., "I tried very hard while playing"). Previous research has demonstrated very good internal consistency of .84 for this subscale (McAuley, Duncan, & Tammen, 1989).

Perceived performance. Participants' perceived performance was measured using 5-item scale adapted from a measure of subjective improvement (Balaguer, Duda, & Crespo, 1999). The scale required the participants to rate their overall performance as well as the 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 during matches they had played in that season. Participants rated these items on a 10-point scale ranging from 1 (*very poor*) to 10 (*excellent*). This scale has been found to have very good internal consistency (α = .87) and supported by confirmatory factor analysis (Al-Yaaribi et al., 2016).

Sport commitment. The 4-item of the Sport Commitment Model (Scanlan et al., 1993) was used to assess players' psychological desire to continue participation with their team. For each item, participants responded on a 5-point Likert scale with difference anchors per item; "How dedicated are you to continue to keep playing for this team?" anchors ranged from 1 (*not at all dedicated*) to 5 (*very dedicated*); "How hard wold it be for you to quit playing for this team?" anchors ranged from 1 (*not at all*) to 5 (*very hard*); "How determined are to keep playing for this team?" anchors ranged from 1 (*not at all determined*) to 5 (*very determined*); "What would you be willing to do to keep playing for this team?" anchors ranged from 1

(*nothing at all*) to 5(*a lot of things*). This scale has demonstrated very good internal consistency ($\alpha \geq .88$) with youth sample (Scanlan et al., 1993).

Coach motivational climate. Mastery and performance climates created by the coach were assessed with an adapted short version of the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2; Newton, Duda, & Yin, 2000). The PMCSQ-2 is 33 item scale, however, this study used only 16 items pertaining only to coach behaviors relevant to the two climates; eight items measure the mastery climate (e.g., "Emphasizes always trying your best") with other eight items measure the performance climate (e.g., "Notices only the top players"). Presumably, using the abbreviated version of the PMCSQ-2 could help us to focus more on coach-created motivational climate without the interference of teammate behaviors. The stem: "This season, my coach…" preceded each item and responses were given using a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The internal consistency of the abbreviated version of the PMCSQ-2 has been supported by previous research (van de Pol et al., 2012).

Results

Preliminary Analyses

Prior to the main analysis, data were inspected for normality, missing values, and outliers for all study variables following the procedure outlined by Tabachnick and Fidell (2007). A small proportion of missing data (less than 5%) was identified, and these missing data were replaced with the mean of the respective variable. 13 extreme outlies (i.e., values higher or lower than 3 *SD*s from the mean) were found and removed. Examination of skewness and kurtosis for all variables (see Table 3.1) indicated univariate normality based on the cut-off values of skewness <3.0 and kurtosis <10.0 (Kline, 2016).

Descriptive Statistics, Correlation Analysis, and Scale Reliabilities

Descriptive statistics and Cronbach's alpha coefficients for all study variables appear in Table 3.1. Players reported that, during matches of the season, their teammates displayed sometimes-to-often prosocial behavior and never-to-sometimes antisocial behavior. Players reported enjoyment, effort, performance, commitment, and mastery climate above the mid-point of the scale, and below the mid-point of the scale for anger, and performance climate. All of the main teammate behaviors correlations were in the expected direction, and all were moderately significant. Correlations of .10, .30, and .50 correspond to small, medium, and large considered small, medium, and large effect, respectively (Cohen, 1992). All scale scores demonstrated very good to excellent internal consistency.

Table 3.1

Descriptive Statistics, Alpha Coefficients, and Zero-Order Correlations (N = 358)

Variable	1	2	3	4	5	6	7	8	9
1. PB	(.83)								
2. AB	-.20**	(.82)							
3. Enjoyment	.50**	-.24**	(.94)						
4. Anger	-.22**	.40**	-.30**	(.86)					
5. Effort	.34**	-.32**	.46**	-.14*	(.81)				
6. Performance	.36**	-.34**	.40**	-.31**	.47**	(.87)			
7. Commitment	.47**	-.30**	.60**	-.23**	.50**	.46**	(.87)		
8. MC	.40**	-.25**	.40**	-.14*	.40**	.30**	.40**	(.80)	
9. PC	-.23**	.35**	-.23**	.17*	-.30**	-.30**	-.34**	-.35**	(.84)
M	3.69	1.82	4.28	1.82	6.08	7.34	3.92	3.97	2.62
SD	0.81	0.76	0.89	0.92	1.04	1.55	0.96	0.34	0.83
Skewness	-.83	1.55	-1.35	1.01	-1.41	-.95	-.90	-.78	.87
Kurtosis	.81	2.97	1.40	.48	1.66	1.46	.21	1.20	.43

Note: Alpha coefficients are presented on the diagonal. Possible rage of scores: 1 to 5 for all variables except for effort (1-7) and performance (1-10). PB = prosocial behavior; AB = antisocial behavior; MC = mastery Climate; PC = performance climate.

*p< .01; **p< .001.

Main Analysis

The first purpose of this study was to examine whether prosocial and antisocial behaviors were related to enjoyment, anger, effort, performance, and commitment. Using Structural Equation Modelling (EQS 6.1; Bentler, 2003), I followed the two-step model building approach recommend by Anderson and Gerbing (1988). The first step involves testing the measurement model using confirmatory factor analysis and in the second step, the hypothesized structural model is tested. Inspection of the Mardia's multivariate coefficient (65.07) indicated the data distribution departed from multivariate normality. Thus, the robust maximum likelihood (MLR) method was used. I also used bootstrapping analysis to test the significance of each standardized parameter estimate using 1000 bootstrapping resamples and 95% Confidence Intervals (CIs). The estimated parameter is considered significant when its CI does not contain zero (Byrne, 2006; Preacher & Hayes, 2008).

Several fit indices were used to assess the fit of the model to the data: the Satorra–Bentler chi square (S-Bχ^2), the Robust Comparative Fit Index (R-CFI), the Bentler-Bonett Non-Normed Fit Index (R-NNFI), the Standardized Root Mean Square Residual (SRMR), the Robust Root Mean Square Error of Approximation (R-RMSEA) and its associated 90% Confidence Interval (CI). Values of the CFI and NNFI close to or above .95, values of the SRMR and RMSEA close to or below .08 and .06, respectively, and the lower end of 90% CI of the RMSEA containing the value of .05 represent an excellent fit of the hypothesized model to the data (Hu & Bentler, 1999).

The results of CFA showed that all scales had a good factor structure (Table 3.2). The goodness of fit for the full measurement model were: S-Bχ^2 (427) = 750.83, p< .001; R-CFI = .94; R-NNFI = .91; SRMR = .14; R-RMSEA = .04 (90% CI of the R-RMSEA = .03, .05) and indicated a good fit to the data; the standardised factor loadings (FL) were: FL_M= .63 (FL_{range} = .40–.84).The structural model revealed the data fit the model very well: S-Bχ^2(417) =

575.12, $p < .001$; R-CFI = .96; R-NNFI = .95; SRMR = .06; R-RMSEA = .03 (90% CI of the R-RMSEA = .02, .04). The standardized path coefficients and explained variances of the model are presented in Figure 3.1, where it can be seen that prosocial behavior positively related to enjoyment, effort, performance, and commitment. Enjoyment was positively related to effort, performance, and commitment; effort was positively related to performance, which in turn was positively related to commitment. Antisocial behavior was positively related to anger and negatively related to effort and performance. Bootstrapped parameter estimates are shown in Table 3.3. Prosocial and antisocial behavior explained 35% and 18% of the variance in enjoyment and anger, respectively. The two behaviors, enjoyment, and anger explained 28% of the variance in effort. Behaviors, enjoyment, anger, and effort explained 40% of the variance in performance. Behaviors, enjoyment, anger, effort, and performance explained 53% in commitment.

Table 3.2

Results of Confirmatory Factor Analysis for Teammate behavior, Enjoyment, Anger, Effort, Performance, and Commitment

Variable	S-Bχ^2	*df*	R-CFI	SRMR	R-RMSEA (90% CI)
Teammate behavior	77.02**	34	.95	.03	.07 (.04, .07)
Enjoyment	.39	2	1.00	.01	.06 (.00, .06)
Anger	27.39**	2	.94	.02	.02 (.02, .07)
Effort	5.32	2	.98	.03	.07 (.00, .14)
Performance	11.80*	5	.98	.02	.06 (.00, .14)
Commitment	5.15	2	.99	.01	.06 (.01, .10)

Note: S-Bχ^2 = Satorra–Bentler chi square statistic; R-CFI = robust comparative fit index; SRMR = standardized root mean residual; R-RMSEA = robust root mean square error of approximation; 90% CI = 90% confidence interval of the R-RMSEA.

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

Table 3.3

Bootstrapped Standardized Parameter Estimates of Direct and Indirect Effects

Parameter			B	95% CI
Prosocial behavior				
Direct effects				
Prosocial behavior	→	Enjoyment	.60	.47, .69
	→	Effort	.19	.02, .38
	→	Performance	.20	.03, .35
	→	Commitment	.22	.04, .38
Enjoyment	→	Effort	.35	.20, .50
	→	Performance	.23	.01, .40
	→	Commitment	.45	.29, .60
Effort	→	Performance	.24	.09, .40
Performance	→	Commitment	.18	.05, .31
Indirect effects via				
Effort	→	Performance	.26	.05, .11
Enjoyment	→	Effort	.21	.11, .32
	→	Performance	.31	.05, .24
	→	Commitment	.26	.15, .38
Performance	→	Commitment	.07	.01, .08
Antisocial behavior				
Direct effects				
Antisocial behavior	→	Anger	.42	.29, .55
	→	Effort	–.11	–.27, –.06
	→	Performance	–.21	–.34, –.04
	→	Commitment	–.01	–.13, .11
Anger	→	Effort	.05	–.07, .17
	→	Performance	.07	–.12, .14
	→	Commitment	.01	–.10, .09
Indirect effects via				
Effort	→	Performance	–.03	–.07, –.01
Performance	→	Commitment	–.13	–.10, –.01

Note: CI = confidence interval.

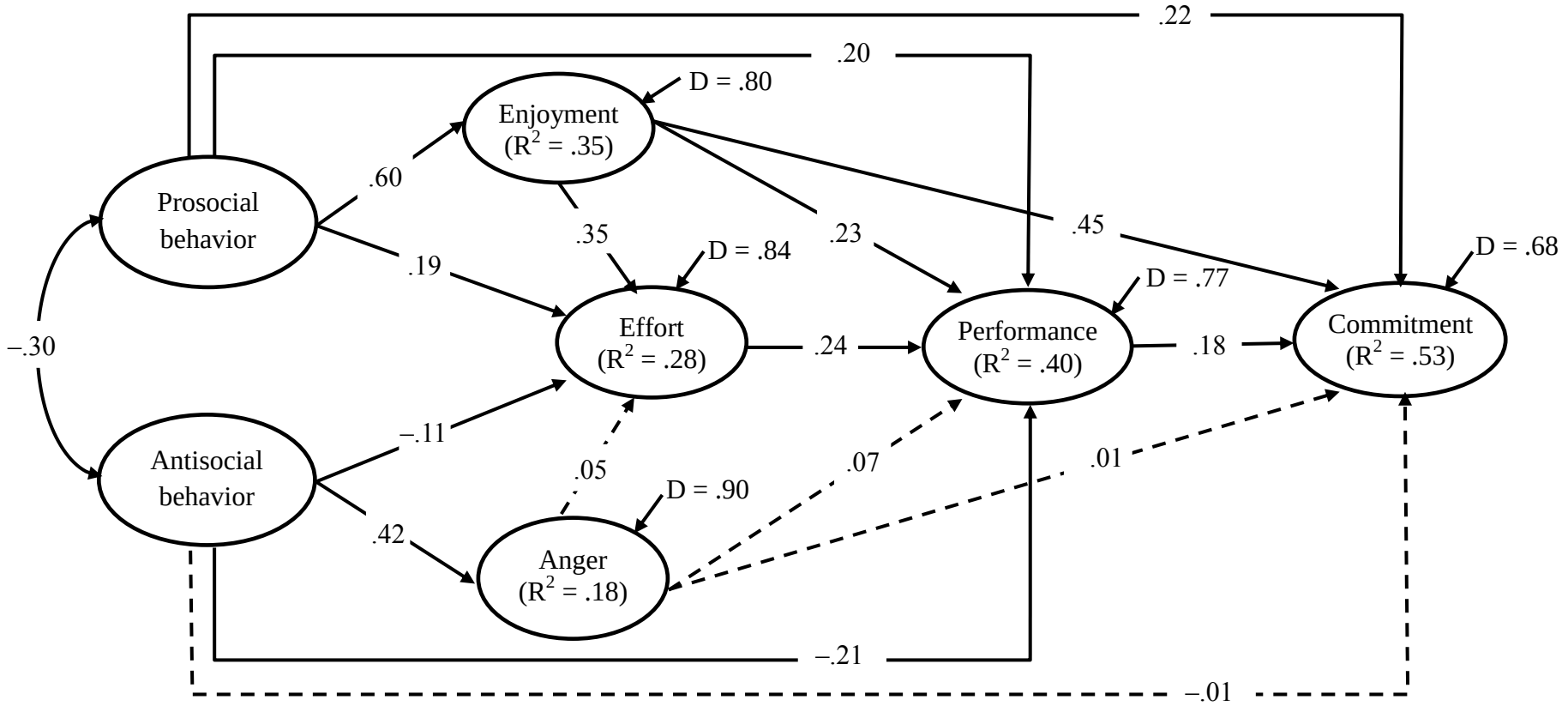


Figure 3.1— Standardized path model depicting the relationships between prosocial and antisocial behaviors, emotion, effort, performance, and commitment. *Note:* Solid and dashed lines indicate significant ($p < .05$) and non-significant parameters, respectively.

Mediation Analysis

I examined whether (a) enjoyment mediated the relationship between prosocial behavior and effort, performance, and commitment and (b) performance mediated the relationship between prosocial behavior and commitment. Also, since anger had no effect on effort, I examined only whether the relationship between antisocial behavior and commitment was mediated by performance. For this analysis, I requested decomposition of model effects through EQS, where an effect is composed into direct, indirect, and total effects (Bollen, 1987). Direct effects are the effects of an independent variable (e.g., prosocial behavior) on a dependent variable (e.g., commitment) after accounting for the effect of mediating variable(s) (e.g., enjoyment; enjoyment and performance); indirect effects are the effects of an independent variable on a dependent variable via the mediating variable (s); and total effects are the sum of the direct and indirect effects. The decomposition of direct, indirect, and total effects of different pathways was calculated separately. The decomposition technique allows to trace the effect of any pathway through a mediator(s) in the overall model. The magnitude of the mediated effect is expressed by the percentage of the total effect accounted for by the indirect effect.

The total, direct and indirect effects of prosocial behavior on effort mediated by enjoyment were: .41 ($p < .05$); .20, ($p < .05$); and .21, ($p < .05$), respectively; on performance mediated by enjoyment and effort were .42, ($p < .05$); .20, ($p < .05$); and .22, ($p < .05$), respectively; on commitment mediated by enjoyment, effort, and performance were .57, ($p < .05$); .22, ($p < .05$); and .35, ($p < .05$), respectively. The percentages of the total effect were 51%, 79%, and 71% respectively. The total, direct and indirect effects of antisocial behavior on performance mediated by anger and effort were –.23, ($p < .05$); –.21, ($p < .05$); and –.02, ($p < .05$), respectively; on commitment mediated by anger, effort, and performance were –.16,

(p> .05); .08, (p>.05); and –.24, (p< .05), respectively. The percentages of the total effect of antisocial behavior were 87% and 49%, respectively.

The significance of the standardized indirect effects was assessed using bootstrapping procedures (Shrout & Bolger, 2002; Preacher & Hayes, 2008). This analysis indicated that enjoyment mediated the relationships between prosocial behavior, effort, performance and commitment. Performance mediated the prosocial behavior-commitment relationship. The negative relationship between antisocial behavior and commitment was mediated by performance. Additionally, effort was found to mediate the prosocial and antisocial behaviors-performance relationships (see Table 3.3).

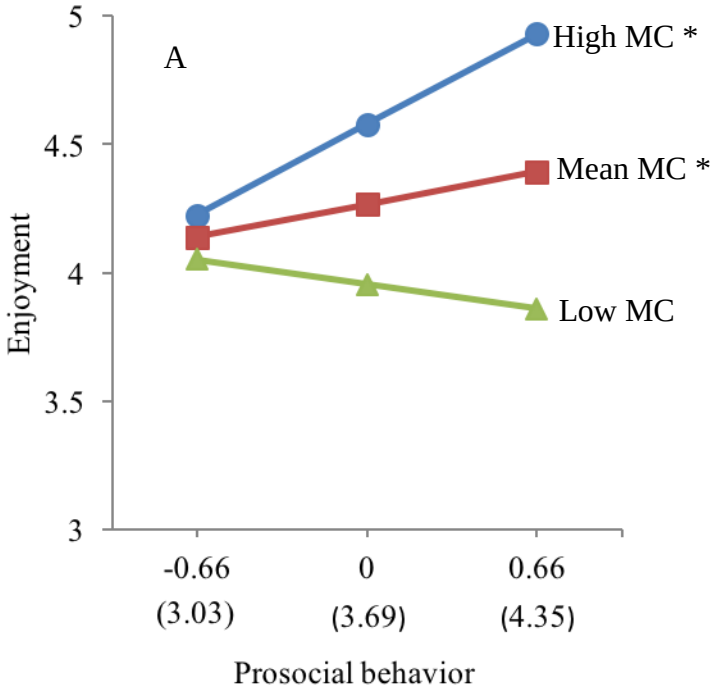
Moderation Analysis

The second study purpose was to examine whether the relationships between prosocial and antisocial behaviors and the outcomes were moderated by motivational climate. This analysis was carried out using Hayes' (2013) PROCESS macro (version 2.16) for SPSS (Model 1). Moderation occurs when the confidence interval of the interaction between the independent variable and the moderator does not include zero (Preacher & Hayes, 2008). In this analysis, a 95% confidence interval with 1,000 bootstrapping resampling was used. To probe the interaction effect, simple slope analysis was conducted. This approach selects three arbitrary points (i.e., mean and 1SD above and below the mean) of the moderator to estimate the effect of the predictor on the outcome (Aiken & West, 1991; Cohen, Cohen, West, & Aiken, 2003). I found three significant interaction effects: prosocial behavior x mastery climate for enjoyment, prosocial behavior x mastery climate for performance, and antisocial behavior x performance climate for performance. These findings are shown in Figure 3.2 (A), Figure 3.2 (B), and Figure 3.3.

Figure 3.2 (A) shows the interaction between prosocial behavior and mastery climate for enjoyment, (b = .41; 95% CI: .20, .64, t = 3.55, p< .001). Simple slope analysis revealed

that prosocial behavior predicted enjoyment at mean (b = .38; 95% CI: .22, .53, t = 4.77, p = .000) and high (b = .65; 95% CI: .53, .77, t = 10.75, p = .000), but not at low levels (b = .10; 95% CI: –.18, .40, t = .72, p = .47) of mastery climate. Figure 3.2 (B) shows the interaction between prosocial behavior and mastery climate for performance (b = .40; 95% CI: .10, .70, t = 2.50, p< .01). The simple slope was significant for players who reported perceptions of moderate (b = .53; 95% CI: .29, .78, t = 4.35, p = .000) or high (b = .79; 95% CI: .54, 1.04, t = 6.28, p = .000) levels of mastery climate, but not for those who perceived a low mastery climate (b = .28; 95% CI: –.09, .65, t = 1.48, p = .14). These findings indicate that the higher the mastery climate, the stronger the positive association between prosocial behavior and enjoyment as well as performance.

Figure 3.3 shows the antisocial behavior by performance climate interaction for performance (b = –.21; 95% CI: –.36, –.06, t = –2.75, p< .006). Simple slope analysis revealed that antisocial behavior negatively predicted performance when perceived performance climate was moderate (b = –.30; 95% CI: –.60, –.01, t = –2.07, p = .03) or high (b = –.51; 95% CI: –.76, –.27, t = –4.18, p = .000), but not when it was low (b = –.09; 95% CI: –.49, .29, t = –.49, p = .62), indicating that the higher the performance climate, the stronger the negative association between antisocial behavior and performance.



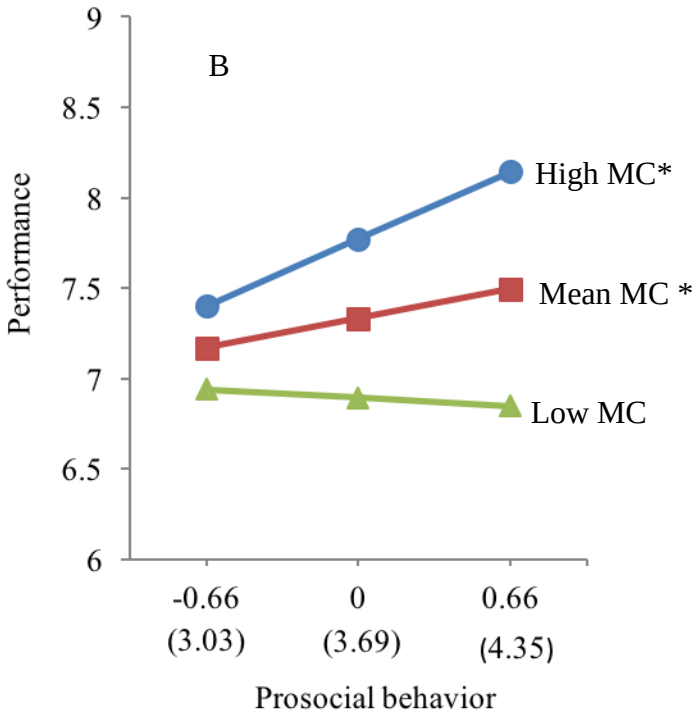


Figure 3.2— Simple regression lines of the interaction between prosocial behavior and mastery climate (MC) for enjoyment (A) and performance (B).

Note: * Significant slope.

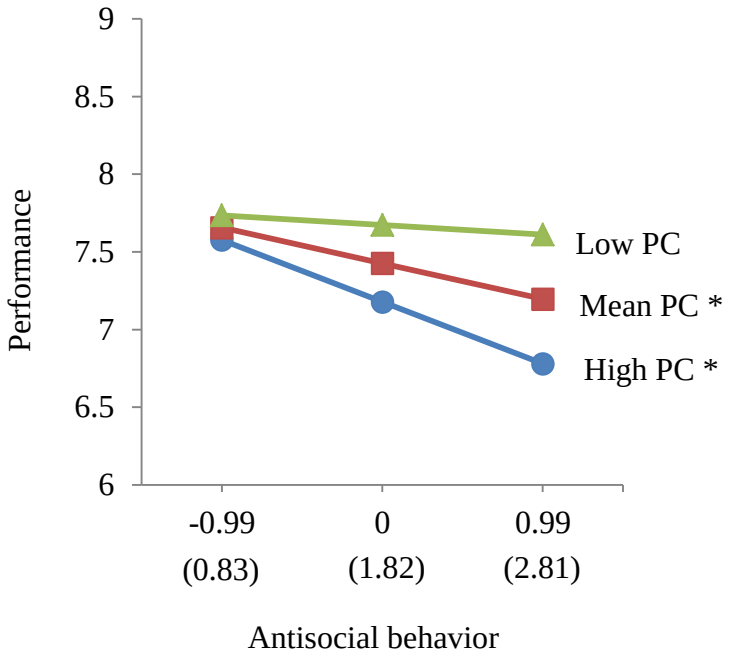


Figure 3.3— Simple regression lines of the interaction between antisocial behavior and performance climate (PC) for performance.

Note: * Significant slope.

Discussion

Recent research has demonstrated that prosocial and antisocial teammate behaviors are related to important outcomes for the recipient of the behavior (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016). This study sought to (a) replicate the work of Al-Yaaribi et al. (2016) with an independent sample of adolescent soccer players and (b) extend this work by investigating the role of motivational climate on the relationship between prosocial and antisocial teammate behaviors, enjoyment, anger, effort, performance, and commitment. Below, I discuss first the potential consequences of prosocial and antisocial behaviors, followed by the moderation findings of motivational climate.

Consequences of Prosocial Behavior

The first purpose of this study was to examine the relationship between prosocial behavior, enjoyment, effort, performance, and commitment. The present findings show that when players perceived that, during matches they had played in the season, their teammates provided encouragement and support, gave them positive and constructive feedback, and congratulated them for good play, they were more likely to enjoy playing the matches, exerted more effort, perceived that they performed well, and reported higher commitment for playing for their team. These findings replicate and extend those of Al-Yaaribi et al. (2016) in adult soccer players and provide further support for Bandura's (1991) assertion that the social environment can shape an individual's thoughts, feelings, and behaviors. Also, the findings underline the substantial role of positive feedback for perceived competence (Mouratidis, Vansteenkiste, Lens, & Sideridis, 2008) and the positive social interactions among teammates for emotional, cognitive, and behavioral outcomes (e.g., Smith, 2007; Ullrich-French & Smith, 2009).

Consistent with my hypothesis and previous research (Al-Yaaribi et al., 2016) enjoyment mediated the relationships between prosocial behavior, effort, performance, and

commitment. The amount of enjoyment experienced by the recipients of prosocial teammate behavior may have led them to exert more effort, think they have performed well, and continue participation with their team. Enjoyment has been positively linked with effort and performance (e.g., Cooke, Kavussanu, Mclntyre, & Ring, 2013; Puca & Schmalth, 1999). Players who were motivated due to their experience of increased enjoyment were more likely to perform with greater effort (Ryan & Deci, 2002). These findings align with the framework of Bandura's (1991) theory regarding the mediating mechanism of an individual's affective state in the link between the social environment and the individual's behaviors.

Both enjoyment and performance mediated the prosocial behavior-commitment relationship. Enjoyment and perceived performance were positively related to team commitment. Previous research has shown that enjoyment and performance are key determinants of commitment (e.g., Carpenter, Scanlan, Simons, & Lobel, 1993; Ullrich-French & Smith, 2009; Weiss & Weiss, 2007). In line with previous research (Al-Yaaribi et al., 2016), the present findings suggest that prosocial behavior among teammates has the potential to increase the recipient's commitment indirectly through increasing enjoyment and performance.

Consequences of Antisocial Behavior

Consistent with the work of Al-Yaaribi et al. (2016), the present findings showed that antisocial behavior was positively related to anger and negatively related to effort and performance. The recipients of verbal abuse, swearing, and criticism from one's teammates during the matches played over the season, tended to report more anger, exerted less effort, and perceived lower performance. Bandura (1991) has proposed that transgressive behavior is associated with negative consequences for the recipient. It is possible that the recipients of antisocial behavior, particularly those with high sensitivity to criticism of others, felt disrespected and offended. Adolescence is a crucial period at which young athletes are more

susceptible and easily influenced by the social context of sport such as peer interaction (see Smith, 2007). Therefore, adolescent players could have a substantial role in influencing each other during sport participation.

The hypothesis that anger would mediate the antisocial behavior-effort relationship was not supported. Anger was not related to effort in the tested model. Thus, this finding did not replicate the finding of Al-Yaaribi et al. (2016) who have shown that anger was positively related to effort. This could be due to the diversity in the age of participants. Al-Yaaribi et al.'s (2016) participants were adults, whereas participants in the current study were adolescents, which might explain the discrepancy in the findings. It appears that the effect of anger on athletes' effort may vary based on the age. The discrepancy in the findings could also be attributed to the difference in the procedures used in the two studies. In Al-Yaaribi et al.'s (2016) study, participants completed questionnaires immediately after a match they had played, while in the present study, participants were asked to think about matches being played over the whole season and completed the questionnaire after or before a training season. Therefore, it is possible that anger experienced in a single match may influence effort temporarily, but this does not happen over the season. Indeed, compared to the participants of the present study, the participants of Al-Yaaribi et al.'s (2016) study reported more anger.

Congruent with Al-Yaaribi et al.'s (2016) finding, performance mediated the antisocial behavior-commitment relationship. Players who perceived their performance was poor during the matches they played in the season were less determined and willing to continue participation with their team. Antisocial behavior may have led the recipients of the behavior to perform worse, which, in turn, may have negatively influenced their commitment. A positive relationship was found between perceptions of competence and continued sport participation in adolescent soccer players (Ullrich-French & Smith, 2009). Taken together,

these findings are in line with contemporary views that suggest teammates are influential for athletes' achievement-related outcomes in sport (e.g., Smith, 2007; Vazou et al., 2006).

Moderating Role of Motivational Climate

The second purpose of this study was to examine whether the relationships between teammate behaviors, enjoyment, anger, effort, performance, and commitment were moderated by motivational climate. The present findings provide support for the matching hypothesis (Harackiewicz & Sansone, 1991) and previous research (Harackiewicz & Elliot, 1998) which has highlighted the critical role of the situational goal structure (i.e., mastery or performance motivational climate). Prosocial behavior was positively related to enjoyment and performance only for those who perceived moderate or high levels of coach-created mastery climate. The positive relationships between prosocial behavior, enjoyment, and performance became stronger as the strength of the coach-created mastery climate increased. That is, the integrated effects of mastery climate and prosocial teammate behavior may have led the recipients to report higher enjoyment and perceive higher performance. Typically, mastery climate is considered as a facilitating climate for players to interact positively and support each other to improve skills, and leads to adaptive outcomes such as enjoyment and prosocial teammate behavior (e.g., Boardley & Kavussanu, 2009; Ntoumanis et al., 2012; van de Pol et al., 2012).

The relationship between antisocial behavior and performance was moderated by performance climate, such that antisocial behavior was negatively related to performance only for players who perceived performance climate as high or moderate in their team environment. The tendency of this inverse relationship became stronger as the players' perceptions of coach-created performance climate increased. A performance climate is an ideal condition for intra-team competition and outperforming teammates and has been consistently linked with maladaptive response patterns such as less effort, low self-worth and

antisocial teammate behavior (e.g., Boardley & Kavussanu, 2009; Reinboth & Duda, 2004; van de Pol et al., 2012). Therefore, perceived performance climate may have further enhanced the negative effect of antisocial teammate behavior in the recipients' perceptions of their performance.

The present findings suggest that coaches of adolescent athletes may be able to enhance the positive consequences of prosocial teammate behavior and undermine the negative consequences of antisocial teammate behavior through their co aching behaviors and leadership styles. It should be noted, however, that this study provides only preliminary evidence for the matching hypothesis, as we, for example, did not find a significant interaction between prosocial behavior and mastery climate for commitment. Hence, further investigation is needed to gain a better understanding of the role of motivational climate in the relationship between teammate behaviors and outcomes.

Practical Implications

The findings of the present study have some important implications for adolescent sport participation. The findings underline the importance of prosocial and antisocial teammate behaviors, which could have beneficial or detrimental consequences for the recipient's achievement-related outcomes. In addition, they are congruent with the findings of previous research (e.g., Kavussanu et al., 2006; Shields et al., 2005) that prosocial and antisocial behaviors occur among adolescent players. This study further supports the role of peer interaction for athletes' outcomes and well-being (e.g., DeFreese & Smith, 2014; Smith, 2007; Ullrich-French & Smith, 2006). These findings show that players' perceptions of team environment could vary the effect of teammate behaviors and their consequence for the recipient. Finally, coaches working with adolescents should establish a mastery climate enriched with frequent prosocial behavior among teammates, while simultaneously diminishing the emphasis on outperforming others, interpersonal competition, and antisocial

teammate behaviors during training and competition. In doing so, they can enhance task enjoyment and perceived performance for their players. Coaches are assumed to have critical roles in the quality of athletes' sport-related experiences via shaping the social team environment (Boardley & Kavussanu, 2009; Reinboth & Duda, 2004).

Limitations and Future Directions

The present study has a number of limitations. First, although the model had a good fit to the data and was based on theoretical and empirical research, assertions of cause and effect relationships cannot be made from cross-sectional data. I have simply shown that my data were consistent with the hypothesized model. Also, based on Bandura's (1991) view of bidirectional interactions between environment, individuals' thoughts, feelings, and behaviors, it is possible to argue for a reversed causality in the relationships of the model. For example, players with high levels of team commitment may be more likely to perform well and engage more in prosocial behavior toward teammates. A longitudinal study or a field experiment could be used to explore the causal relationships between the study variables. Second, the findings pertain only to male soccer players. The generalization of the current findings across a variety of individual and team sports is warranted. Future research could also investigate the role of motivational climate in the consequences of teammate behaviors with a sample of both female and male adolescent players, as previous research has found distinct perceptions of motivational climate according to gender (Kavussanu et al., 2009).

Conclusion

The present study replicated Al-Yaaribi et al.'s (2016) study, which examined the consequences of prosocial and antisocial teammate behaviors for the recipient's enjoyment, anger, effort, perceived performance, and commitment. This study extends the understanding of the potential consequences of these behaviors to adolescent team sport players. Also, it draws attention to the influence of players' perceptions of motivational climate created by the

coach on manipulating prosocial and antisocial teammate behaviors and their effects. Finally, the study findings present interesting directions for further investigation of prosocial and antisocial behaviors in sport.

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Endnote

No interaction effects between teammate behaviors and age were detected, indicating that the effect of teammate behaviors on the outcomes was not moderated by age

CHAPTER FOUR

Study 3: The Effects of Prosocial and Antisocial Behaviors on Emotion, Attention, and Performance

Abstract

The purpose of this experiment was to investigate whether prosocial and antisocial teammate behaviors affect emotions (i.e., happiness, anxiety, anger), attention, and performance. Undergraduate sport and exercise science students (N = 102) were randomly assigned to one of three groups: prosocial behavior, antisocial behavior, and control. They performed a basketball free throw shooting task for 2 minutes in baseline and experimental sessions and completed measures of emotions and attention; shooting performance was also recorded. ANCOVAs controlling for baseline scores and LSD comparison showed that the prosocial group reported higher happiness than the antisocial and control groups. The antisocial group reported higher anger and anxiety (non-significant) and lower attention compared with the other two groups. The prosocial and antisocial groups performed better than the control group. This illustrates that prosocial and antisocial teammate behaviors may have influences for the recipient's emotions, attention, and performance during sport competition.

Introduction

The high prevalence and significance of prosocial and antisocial behaviors in sport have sparked the interest of researchers trying to understand these behaviors (see Kavussanu, 2012; Kavussanu & Stanger, 2017). Prosocial behavior has been defined as voluntary behavior intended to help or benefit another individual or group of individuals (Eisenberg & Fabes, 1998), for example, helping a player off the floor, while antisocial behavior is behavior intended to harm or disadvantage others (Sage, Kavussanu, & Duda, 2006), for example, verbally abusing a player. Most research to date has examined the antecedents of prosocial and antisocial behaviors in sport (e.g., Bruner, Boardley, & Côté, 2014; Kavussanu, Stanger, & Ring, 2015; Sage et al., 2006). Recently, researchers have started to investigate the consequences of these behaviors for the recipient (e.g., Al-Yaaribi & Kavussanu, 2017 Al-Yaaribi, Kavussanu, Ring, 2016). The purpose of the current study was to extend this work using an experimental approach.

A theoretical framework relevant to this study is the social cognitive theory of moral thought and action (Bandura, 1991), which describes a reciprocal relationship between the social environment and an individual's thoughts, feelings, and behaviors. According to this theory, the social environment can influence an individual's behavior and emotions, but the person also affects the social environment. Moreover, the morality of conduct is judged based on its consequences for the recipient (Bandura, 1991). For example, injuring an opposing player is unethical behavior because it results in negative physical consequences for the recipient. Bandura (1999) also described two aspects of morality: proactive morality, which is evident when people engage in positive acts and inhibitive morality is when people refrain from engaging in negative acts toward others. In sport, the terms prosocial and antisocial behaviors have been used to refer to these two aspects of morality.

Research has shown that athletes engage in prosocial and antisocial behaviors toward teammates (e.g., congratulating or arguing with a teammate). It has been suggested that these behaviors may have achievement related consequences for teammates (Kavussanu & Boardley, 2009). For instance, prosocial teammate behavior could enhance the recipient's motivation and subsequent performance. A recent study provided evidence consistent with this proposal (Al-Yaaribi et al., 2016). Football and basketball players who perceived their teammates acting prosocially toward them during a match, reported experiencing more enjoyment, tried harder, perceived that they had performed better, and reported higher commitment toward their team.

Antisocial teammate behavior, on the other hand, may have negative consequences for the recipient's well-being and performance (Kavussanu & Boardley, 2009). Al-Yaaribi et al. (2016) found that players, who perceived that their teammates acted antisocially toward them during the match reported more anger, less effort, and lower performance. They also found that antisocial teammate behavior was inversely associated with commitment, and this effect was mediated by reduced effort and perceived performance. This seminal study shed light on the potential consequences of prosocial and antisocial behaviors in sport, however, its cross-sectional design does not allow conclusions to be drawn about the direction of causality. Accordingly, experimental research is needed to determine the influence of teammate behaviors on outcomes for athletes.

Teammate Behavior, Emotions, Attention and Performance

An important outcome of teammate behavior is emotion. According to Fredrickson (2001), emotion is a cognitive appraisal, either conscious or unconscious, of an event, and associated with multiple components such as subjective experience, physiological change, cognitive processing, and facial expression. Being the recipient of prosocial behaviors, such as encouragement, positive feedback, and support from one's teammates, can lead athletes to

feel positive emotions such as happiness, which is experienced when individuals appraise events or situations as beneficial and favorable for them, or as making progress toward attaining goals (Jones, Lane, Bray, Uphill, & Catlin, 2005; Lazarus, 2000). The recipient of prosocial teammate behavior may also be more encouraged and motivated to progress toward attaining their goals and subsequently, may experience greater happiness. Perceptions of social support, which like prosocial behavior, is intended to induce positive outcomes (Bianco & Eklund, 2001), have been found to benefit psychological well-being (DeFreese & Smith, 2014; Smith, 2007). In previous research, recipients of prosocial teammate behavior reported positive affective experiences, such as enjoyment and positive affect (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016).

One of the most common negative emotions athletes experience during competition is anxiety, which is defined as uncertainty regarding goal attainment and coping (Lazarus, 2000) and is characterized by feelings of apprehension and tension, along with arousal of the autonomic nervous system (Jones et al., 2005). Anxiety occurs when competitive sport situations are perceived as stressful and threatening (Eysenck, 1992). Prosocial behavior may help alleviate these feelings, as it may act as a protective cushion against competitive pressure. Positive social interaction in the form of social support was inversely associated with negative affect and perceived sport stress (DeFreese & Smith, 2014). Social support has the potential to not only protect against environmental demands but also to help cope with threats and stressors (Bandura, 1992; Benight & Bandura, 2004). Freeman and Rees (2010) found that perceived availability of teammate social support (not actual behavior) was inversely related to competition stress. Thus, it is likely that the recipient of prosocial teammate behavior may be less likely to experience anxiety, because such behavior may help to buffer the demands of training and competition.

Antisocial teammate behaviors, such as expressing frustration after a teammate's poor play, criticizing, swearing, and arguing with teammates, may lead the recipient to perceive external pressure, which could, along with perceived competitive stress lead to anxiety. Antisocial behavior has been linked with a decrease in psychological well-being (Kavussanu, 2008). DeFreese and Smith (2014) found that negative social interactions were inversely related to athletes' well-being (i.e., stress and negative affect). Negative social interactions, which include unhelpful, unwanted, rejecting, neglecting, or intrusive behaviors (Newsom, Rook, Nishishiba, Sorkin, & Mahan, 2005), resemble antisocial behavior. Indeed, players who perceived antisocial teammate behavior during matches played in the sport season reported more negative affect (Al-Yaaribi & Kavussanu, 2017).

Antisocial behavior can also influence anger, an emotion comprising high arousal that results from an event perceived to be "a demeaning offence against me and mine" (Lazarus, 2000, p. 242). In sport, some players may feel they have the right to criticize, verbally abuse, and scream at their teammates during games or training, particularly younger or less-skilled teammates. Usually, players do not accept such behaviors and feel offended and disrespected by their teammates. A recent study indicated that players who perceived their teammates acting antisocially toward them during competition reported higher anger (Al-Yaaribi et al., 2016). Increased provocation during competition has been shown to cause anger (Stanger, Kavussanu, McIntyre, & Ring, 2016). Thus, antisocial teammate behavior has the potential to elicit anger.

Antisocial behaviors could also influence attentional control, which includes the process of concentrating attention effectively on task-relevant information while ignoring task-irrelevant (disruptive) information at the proper time (e.g., Singer, Cauraugh, Murphey, Chen, & Lidor, 1991; Schmidt & Lee, 1999). According to Thomas, Murphy, and Hardy (1999) attentional control is the ability to selectively attending to relevant thoughts and

controlling distracting thoughts while performing a task. Attention can be shifted by thoughts and emotions (e.g., Hatzigeorgiadis & Biddle, 2008; Kavussanu, Willoughby, & Ring, 2012; McCarthy, Allen, & Jones, 2013). Antisocial teammate behavior may divert the recipient's attention to task-irrelevant thoughts by thinking about or trying to respond to one's teammate's verbal abuse or criticism. Task-irrelevant thoughts may disrupt attentional focus and shift attentional resources away from task-relevant information (Wulf, 2013). Indeed, empirical research has shown that athletes can be distracted by emotional task-irrelevant negative words, such as "loser", with negative sport-relevant words causing the greatest attentional bias (Lautenbach, Laborde, Putman, Angelidis, & Raab, 2016).

Prosocial teammate behavior may also lead to better performance. For example, receiving positive feedback from a teammate may enhance the recipients' trust in their abilities, which in turn should increase their motivation and performance. In contrast, criticizing or showing frustration at a teammate may demotivate the recipients, particularly those who are relatively sensitive to others' criticism and disapproval. Thus, such behaviors could impair an athlete's ability to perform. Al-Yaaribi et al. (2016) found that prosocial teammate behavior was positively associated with perceived performance, while the reverse relationship was observed for antisocial behavior. Experimental research has also shown that performance-related positive feedback, such as "congratulations" and "well done", improved performance (e.g., Escarti & Guzman, 1999; Mouratidis, Vansteenkiste, Lens, & Sideridis, 2008).

The Present Experiment

While much sport morality research has investigated the antecedents of prosocial and antisocial behaviors, only two studies have examined potential consequences of these behaviors for the recipient (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016;). However, both studies were cross-sectional limiting the conclusions one can draw about the

direction of causality. To date, no study has experimentally investigated these relationships. The current experiment was designed to extend existing literature by examining whether prosocial and antisocial teammate behaviors affect emotions (i.e., happiness, anxiety, anger), attention, and performance. For this purpose, participants were assigned to one of three groups: prosocial teammate behavior, antisocial teammate behavior, and control.

I hypothesized that the prosocial teammate behavior group would experience greater happiness compared to the antisocial and control groups (e.g., Al-Yaaribi et al., 2016). I also expected that the antisocial teammate behavior group would experience higher anxiety and anger than the prosocial and control groups (e.g., Al-Yaaribi & Kavussanu, 2017; DeFreese & Smith, 2014; Freeman & Rees, 2010). The antisocial behavior group is also expected to report lower attention than the prosocial and control groups (e.g., Lautenbach et al., 2016). Finally, participants in the prosocial group are expected to perform better than those in the antisocial and control groups (e.g., Al-Yaaribi et al., 2016; Mouratidis et al., 2008).

Method

Participants

One hundred and two (51 males; M_{age}= 20.31, *SD* = 2.30 years) sport and exercise science university students voluntarily participated in the experiment in exchange for course credit. At the time of testing, participants had experience playing their main sport competitively for an average of 6.90 years (*SD* = 4.50). Only seventeen (16.7%) of the participants identified basketball as their main sport. Participants' highest level of basketball playing experience was recreational (*n* = 65; 64.7%), local (*n* = 15; 14.7%), regional (*n* = 6; 5.9%), university (*n* = 9; 8.8%) and other (*n* = 7; 5.9%) levels, and they indicated that they had never (*n* = 33; 32.4%), rarely (*n* = 43; 42.2%), sometimes (*n* = 12; 11.8%), often (*n* = 12; 11.8%), or very often (*n* = 2; 2.0%) played basketball. Finally, they had played basketball competitively or recreationally for an average of 3.2 years (*SD* = 2.44).

Equipment and Experimental Task

The task involved shooting basketball free throws for 2 minutes. Participants threw a size seven (diameter = 0.23 m) basketball (Nike Baller) from a standard free-throw line (distance = 4.57 m) into a standard-size hoop (diameter = 0.46 m) set at a standard height (3.05 m) from the ground. The equipment and task conformed to Federation of International Basketball (FIBA, 2014) guidelines. The apparatus (Powerhoop) consisted of the base, pole, hoop and backboard (1.2 x 0.9 m). A digital countdown timer (ZJchao: 34.3 x 11.9 x 10.7 cm), with a blue LED display, was positioned at a distance of about 4 m from the participant, a height of 2 m from the ground, and an angle of approximately 20° to the front and left of the participant, so that he/she could keep track of time. A similar task has been used in previous research (e.g., Hardy & Parfitt, 1991; Wilson, Vine, & Wood, 2009). The experiment was conducted in a laboratory on a standard concrete floor.

Experimental Design

I used a mixed factorial design with one between and one within subjects factor. The between-subjects factor was Group and had three levels: prosocial behavior, antisocial behavior, and control. The within-subjects factor was condition and had two levels: baseline and experimental session. Participants were randomly assigned to one of three groups (17 males and 17 females in each group) and performed the task twice: baseline and experimental session.

Experimental Manipulations

In order to develop the experimental manipulations, a pilot study was conducted. Specifically, two of the investigators and four undergraduate sport and exercise science students, who were active sport participants, generated a list of prosocial and antisocial verbal behaviors based on their own sport experiences or that of their fellow teammates. The students were given definitions of prosocial behavior (i.e., voluntary behavior intended to

help or benefit another individual) and antisocial behavior (i.e., voluntary behavior intended to harm or disadvantage another individual) and were asked to list all prosocial and antisocial verbal behaviors they had experienced during competitive games.

The 10 prosocial and 10 antisocial behaviors/comments mentioned most consistently and five neutral comments generated by the authors were rated by 20 college athletes (10 males) regarding the extent to which they thought the 25 comments would have positive or negative effect on them during competition, on a 9-point Likert scale (– 4 = *extremely unpleasant* to + 4 = *extremely pleasant*).The five prosocial and antisocial comments with the highest ratings were then used in the experimental manipulations. The five prosocial comments (M = 2.11) were: "You can do it", "Keep going", "Great effort", "Great performance", and "We are almost there". The five antisocial comments (M = 2.33) were: "What are you doing". "This is awful". "You are letting me down". "Terrible performance", and "It is about bloody time". The five neutral comments (M = 0.26) were: "The basket is black", "It is cold here", "The light is bright", "The basket is big", "The floor is hard".

The experimental manipulation involved verbalizing each of the five (prosocial, antisocial, or neutral) comments to the participants during the task performed in the experimental session at predetermined intervals within the 2 minutes countdown period (1:40, 1:20, 1:00, 0:40 and 0:20 minutes from the end). The tone of voice used to say the comments was encouraging and positive for the prosocial group; angry, frustrated, and negative for the antisocial group; and neutral for the control group.

Manipulation Check

A 10-item adapted version of the two teammate behavior subscales of the Prosocial and Antisocial Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009) was used to measure the recipients' perceptions of prosocial and antisocial teammate behaviors during the task. The stem "During the task, my teammate..." was followed by items measuring prosocial

behavior (four items; e.g., “congratulated me for good play”, “gave me constructive feedback”) and antisocial behavior (five items; e.g., “criticized me”, “verbally abused me”). Participants responded on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*) to indicate how often their teammate engaged in each behavior toward them during the task. An item (i.e., “supported me”) was included with the original 4-item prosocial teammate behavior subscale to increase its internal consistency (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016; Bolter & Weiss, 2013). Research has supported the internal consistency and factorial validity of the teammate behavior subscales (e.g., Al-Yaaribi et al., 2016; Kavussanu et al., 2013).

Measures

Emotions. Happiness, anxiety and anger experienced by the participants during the competitive task were measured using the happiness (4 items), anger (4 items) and anxiety (5 items) subscales of the Sport Emotion Questionnaire (SEQ; Jones et al., 2005). Participants were asked to think to what extent they felt these emotions during the task they had just completed and record their responses on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). The stem, “During the task, I felt...” was followed by items measuring happiness (e.g., “joyful”, “cheerful”), anxiety (e.g., “anxious”, “nervous”), and anger (e.g., “annoyed”, “furious”). Previous studies have supported the construct validity and internal consistency of the three subscales when used after competition (e.g., Allen, Jones, & Sheffield, 2009; Dewar, Kavussanu, & Ring, 2013).

Attention. The 4-item attentional control subscale of the Test of Performance Strategies (Thomas et al., 1999) was used to assess participants’ attention during the task. The stem was “During the task…” and example items are “I focused my attention effectively” and “I had trouble maintaining my concentration”. Participants responded on a 5-point Likert scale, ranging from 1 (*never*) to 5 (*always*). The attentional control subscale has

shown good discriminant validity and internal consistency with a Cronbach's alpha coefficient of .78 (Thomas et al., 1999).

Performance. I used two measures of performance. First, performance was measured by calculating the number of successful baskets during the baseline and experimental sessions, in line with some previous studies (e.g., Kavussanu, Crews, & Gill, 1998; Wilson et al., 2009). I also used a more sensitive measure of performance, comprising a point-system, according to which participants were awarded: 5 points for a successful shot; 3 points for a ball that touched the rim only; 2 points for a ball that hit the backboard and rim; 1 point for a ball that touched the backboard only; and 0 points for a complete miss. Thus, the shots which received less than 5 points did not go through the hoop. The total score was computed by summing the points from shooting attempts during each of the 2 minutes of the task duration. Previous studies have used a point system to measure performance (e.g., Wulf, Raupach, & Pfeiffer, 2005; Zachry, Wulf, Mercer, & Bezodis, 2005).

Procedure

Upon receiving ethical approval from the University Ethics Committee, participants were recruited via e-mails, posters, and flyers and were tested individually. In every experiment, there were two experimenters: one delivered instructions and collected data from the participant (and is referred to as the "experimenter") and a second acted as a teammate, who collected and passed the basketball back to the shooter after every shot, and is referred to as the "confederate". The experimenter was one of four research assistants, while the confederate was the same person in all experiments. This was necessary to standardize the confederate's performance and tone of voice used to verbalize the different comments in order to make the groups comparable.

Once they arrived at the laboratory, the participant and confederate read and signed a consent form. Next, the experimenter explained that the aim of the study was to enhance

teamwork performance during competition; demonstrated the proper technique of free-throw shooting, rebounding, and passing to be used; and informed participants that the goal was to work together as teammates and score as many baskets as possible within 2 minutes. The time was displayed on the digital timer. Participants were also told that the number of successful baskets would be compared with a leader board of other teams' performance and the top three teams would receive monetary prizes of £30 for first, £20 for second, and £10 for third place, at the end of the experiment. The aim of this was to intensify competition. Next, the participant was informed that he or she had been "randomly assigned" to shoot. The confederate was always the teammate, who collected and passed the ball. The task started when the experimenter said "Go" and ended with the buzzer signal from the digital timer at the end of the 2-minute period. Time was used instead of fixed number of shots in order to create the same dynamics of teammates that are evident in real world sport thereby teammate behaviors could be manipulated.

The participant and the confederate were given 1 minute to practice and familiarise themselves with the task requirements. Then, they completed the task in the baseline session, followed by a 4-minute rest, where both the participant and the confederate completed the baseline questionnaire measuring emotions and attentional control during the task. Next, the experimental session took place, where the experimental manipulations were delivered. Then, both the participant and the confederate completed the same questionnaire used in the baseline session, plus the manipulation check described above. At the end of the experiment, participants were told their total performance score, debriefed, and asked if they have suspected the confederate was part of the experiment. Finally, participants were thanked and asked not to disclose the study protocol to anyone.

Results

Preliminary Analysis

There were no missing data or outliers. Histograms, qq plots, and the skewness and kurtosis values indicated that all variables were normally distributed. All scales demonstrated good–to-very good levels of reliability with alpha coefficients ranging from .74 to .91 in the baseline and experimental session. No gender by session interaction effects were found. Therefore, gender was excluded as a factor from the main analyses.

Manipulation Check

Prior to the main analyses, I conducted two one-way ANOVAs comparing the prosocial, antisocial and control groups on the measures of prosocial and antisocial teammate behaviors. ANOVAs were followed by Least Significant Difference (LSD) post-hoc comparisons to evaluate the effectiveness of the experimental manipulations. Partial eta squared (η_p^2) is reported as the effect size, and values of .01, .06, and .14 represent small, medium and large effect sizes, respectively (Cohen, 1992). This analysis showed that the prosocial group perceived more prosocial teammate behavior (M = 3.53, SD = 0.56) compared to the antisocial (M = 1.89, SD = 1.07) and control (M = 1.61, SD = 0.70) groups, F (2, 99) = 56.18, p<.001, η_p^2 = .53. Similarly, the antisocial group perceived more antisocial teammate behavior (M = 2.27, SD = 0.80) compared to the prosocial (M = 1.04, SD = 0.09) and control (M = 1.08, SD = 0.16) groups, F (2, 99) = 72.43, p<.001, η_p^2 = .60. These findings confirm that the experimental manipulations were effective.

Main Analyses

To investigate the effects of teammate behaviors on emotions, attention, and performance, a 3 Group Multivariate Analysis of Covariance (MANCOVA) was performed, controlling for the respective baseline scores. This yielded a multivariate Group main effect F (12, 176) = 3.80, p = .001, η_p^2 = .20. Univariate Analyses of Covariance (ANCOVAs),

controlling for baseline scores, with LSD post-hoc tests were conducted to examine group differences on each variable (see Table 4.1). These analyses showed that: the prosocial group reported more happiness than the antisocial, $p = .001$ $\eta_p^2 = .22$, and control $p = .01$, $\eta_p^2 = .09$, groups (see Figure 4.1A). In contrast, the antisocial group experienced higher anxiety than the prosocial group, $p = .01$, $\eta_p^2 = .10$ (see Figure 4.1B), more anger than the prosocial, $p = .006$, $\eta_p^2 = .11$, and control, $p = .05$, $\eta_p^2 = .06$, groups (see Figure 4.1C), and lower attentional control than the prosocial and control groups, $p = .005$, $\eta_p^2 = .11$ and $p = .01$, $\eta_p^2 = .07$, respectively (see Figure 4.2). The prosocial and antisocial groups scored more baskets compared to the control group, $p = .06$, $\eta_p^2 = .07$, and $p = .001$, $\eta_p^2 = .19$, respectively, and displayed greater free-throw accuracy compared to the control group, $p = .01$, $\eta_p^2 = .10$, and p $= .003$, $\eta_p^2 = .12$ (see Figures 4.3A & 4.3B).

Table 4.1

Adjusted (controlling for baseline scores) Means and standard errors for Emotions, Attention, and Performance at Experimental Session of the Three Groups

	Behavior Group							
	Prosocial		Antisocial		Control			
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F (2,98)*	η_p^2
Emotions								
Happiness	3.50^{ab}	0.17	2.41^{ac}	0.17	2.90^{bc}	0.17	9.51**	.16
Anxiety	1.91^{a}	0.11	2.33^{a}	0.11	2.08	0.11	3.22*	.06
Anger	1.56^{a}	0.14	2.19^{ab}	0.14	1.72^{b}	0.14	5.16**	.10
Attention	4.08^{a}	0.11	3.62^{ab}	0.11	4.02^{b}	0.11	4.90**	.10
Performance								
Baskets scored	16.94^{a}	0.77	18.70^{b}	0.76	14.86^{ab}	0.77	6.19**	.11
Shooting accuracy	107.01^{a}	2.02	108.70^{b}	2.02	99.97^{ab}	2.02	5.22**	.10

Note: In each row, values with the same superscripts indicate that they differ significantly from each other. Possible range of scores: 1-5 for emotions; 1-7 for attention.

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

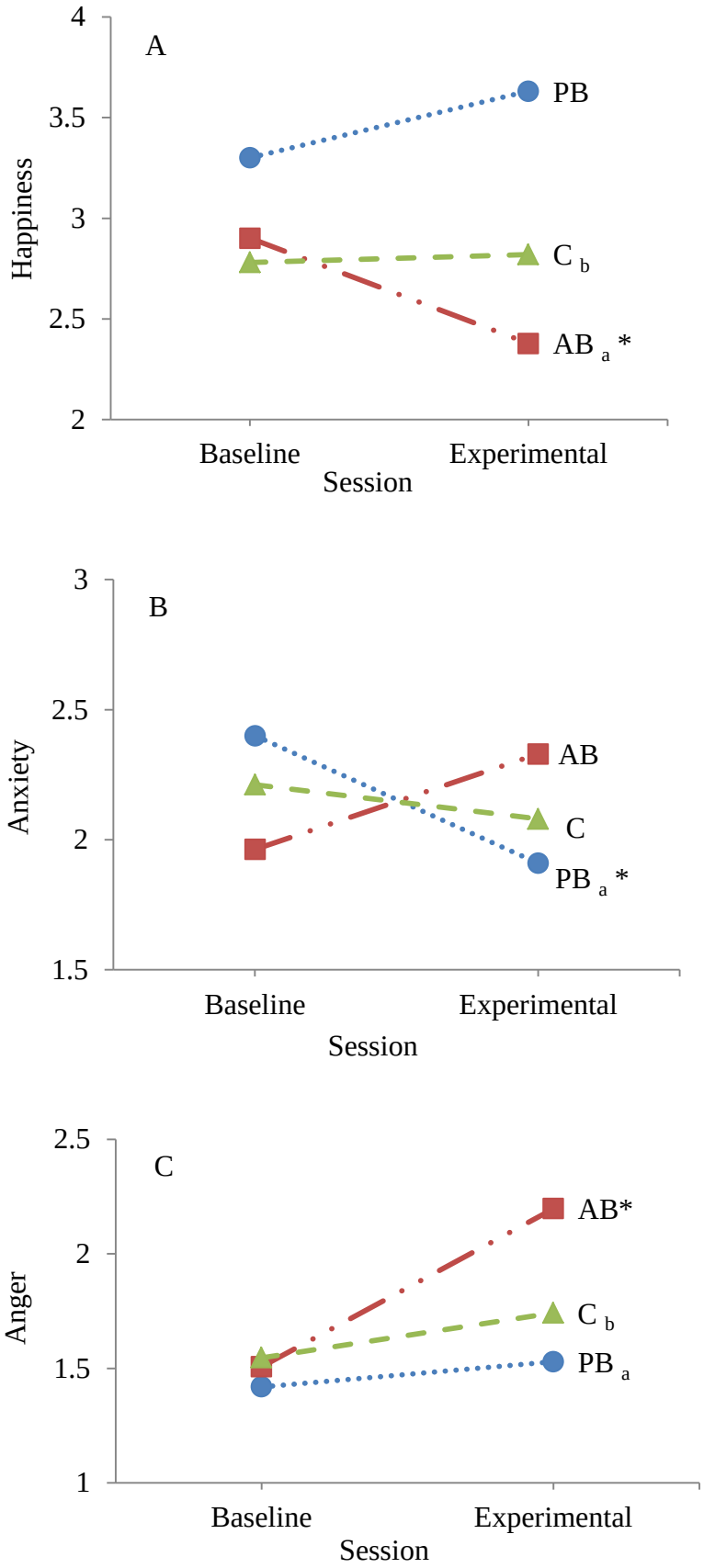

Figure 4.1. Happiness (A), Anxiety, (B) and Anger (C) of Prosocial Behavior (PB), Antisocial Behavior (AB), and Control (C) groups in baseline and experimental sessions. *Note:* $_{a}$PB reported higher happiness than AB; $_{b}$PB reported higher happiness than C; $_{a}$AB reported higher anxiety than PB; $_{a}$AB reported higher anger than PB; $_{b}$AB reported higher anger than C; * significant difference between baseline and experimental sessions.

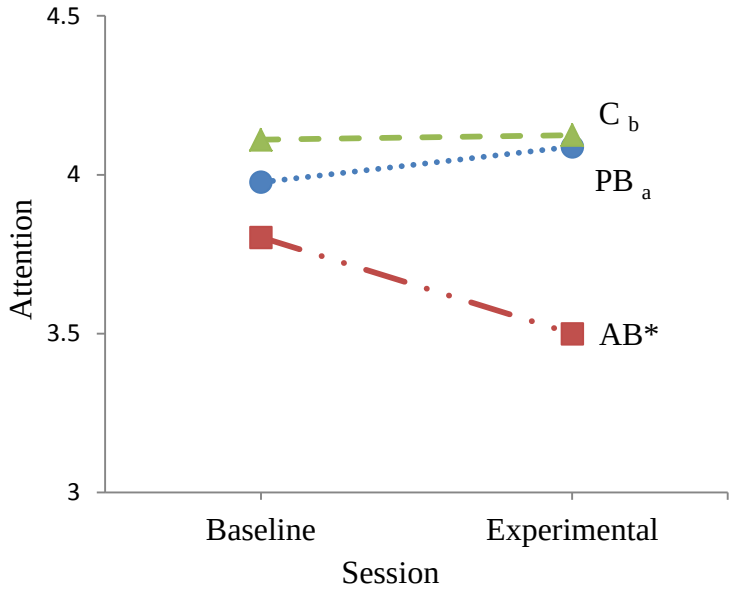

Figure 4.2. Attention of Prosocial Behavior (PB), Antisocial Behavior (AB), and Control (C) groups in baseline and experimental sessions.

Note: $_{a}$AB reported lower concentration than PB; $_{b}$AB reported lower concentration than C; * significant difference between baseline and experimental sessions.

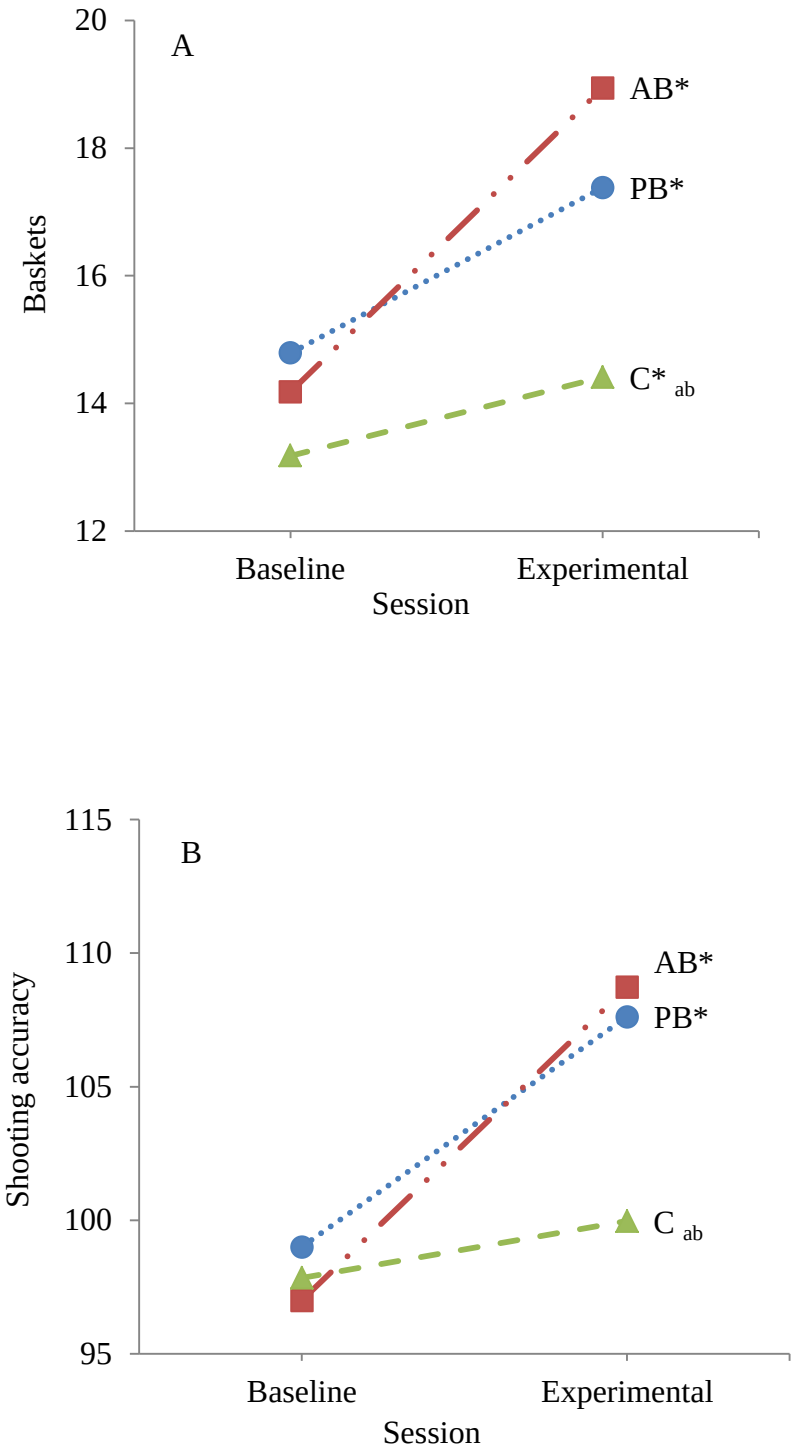

Figure 4.3. Performance: Baskets scored (A) and shooting accuracy (B) of the three groups in baseline and experimental sessions.

Note: $_{a}$PB scored more baskets than C; $_{b}$AB scored more baskets than C; $_{a}$PB had greater free-throw accuracy than C; $_{b}$AB had greater free-throw accuracy than C; * significant difference between baseline and experimental sessions.

Discussion

Prosocial and antisocial behaviors can have important implications for athletes' achievement. However, most studies to date have focused almost exclusively on investigating the antecedents of these behaviors, with only two studies investigating the consequences of prosocial and antisocial behaviors for the recipient (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016). A limitation of previous research is that it was cross-sectional. The aim of the present study was to extend this work by experimentally investigating the effects of prosocial and antisocial teammate behaviors on the recipient's emotions, attention, and performance in a competitive basketball task.

Prior to discussing the main findings, it is important to note that the experimental manipulation was effective as evidenced by the results of the manipulation check. Participants in the prosocial group perceived more prosocial behavior from their teammate compared to the antisocial and control groups, whereas participants in the antisocial group perceived more antisocial teammate behavior compared to the prosocial and control groups. Importantly, the participants' emotions, attention and performance were influenced by the manipulations as explained below.

Teammate Behavior and Emotions

In line with my hypothesis, the prosocial group experienced more happiness than both the antisocial and control groups. Prosocial teammate behaviors, such as saying "keep going" and "great effort", led participants in the prosocial group to experience greater happiness during the basketball free-throw shooting task than those who were assigned to the antisocial or control groups who heard antisocial (e.g., "*terrible performance*") or neutral (e.g., "*the basket is black*") comments by their teammate, respectively. Hence, it appears that the prosocial group had a more enjoyable and pleasant experience compared with the other two groups. In line with previous research (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al.,

2016), these findings suggest that prosocial teammate behavior serves to enhance positive emotions while engaging in competitive sport tasks. In turn, experiencing these emotions should encourage sport involvement (e.g., Al-Yaaribi et al., 2016; Ullrich-French & Smith, 2009).

Although the two experimental groups did not differ from the control group in anxiety, the antisocial group was higher than the prosocial group in anxiety, providing partial support for the study hypothesis. It is possible that the antisocial group experienced external psychosocial stress and felt threatened by their teammate antisocial behavior while performing the free-throw shooting task, and subsequently reported higher anxiety. This finding is in accordance with previous research suggesting that antisocial teammate behavior across a season and antagonistic social interactions were associated with negative affect and perceived stress (Al-Yaaribi & Kavussanu, 2017; DeFreese & Smith, 2014). It may also be that participants in the antisocial group experienced pre-competition anxiety because of their uncertainties regarding their performance and ability to win the competition (Lazarus, 2000). In contrast, prosocial teammate behavior may buffer anxiety experienced before or during the task for the prosocial group, and therefore reported feeling less anxiety. These findings are in accordance with previous results showing that prosocial teammate behavior and positive social interactions were inversely related to negative affect (Al-Yaaribi & Kavussanu, 2017; DeFreese & Smith, 2014).

Participants in the antisocial group reported higher anger than those in the prosocial and control groups, supporting my hypothesis. Antisocial teammate behavior may have irritated and annoyed participants, and they may have felt offended. This finding is consistent with previous research investigating the relationship between provocation and anger (Stanger et al., 2016). Importantly, the present finding provides experimental evidence that anger is a consequence of antisocial teammate behavior (Al-Yaaribi et al., 2016). The present study

contributes to the literature on social-moral interactions and psychological well-being in sport by demonstrating that prosocial and antisocial behaviors may have positive and negative psychological consequences on the recipient's emotions (Kavussanu & Boardley, 2009).

Teammate Behavior and Attention

As hypothesized, the antisocial group paid less attention to the shooting task than the other two groups, suggesting that antisocial behaviors, such as expressing frustration and criticizing a teammate, directed the recipients' attentional focus away from the shooting task. It is possible that antisocial behavior, accompanied by anger and frustration, displayed by the teammate, distracted the recipients' attention away from the task by causing them to think about antisocial behavior. Such task-irrelevant responses may have reduced the amount of attentional resources devoted to the task. This finding supports previous research suggesting that processing pejorative sport-related words can consume some of the limited attentional resources with task-irrelevant thoughts (Lautenbach et al., 2016).

Anger may also distract attention away from the task (Lazarus, 2000). Supplementary analysis indicated that anger mediated the relationship between antisocial behavior and attention[1]. Thus, the recipients' anger responses elicited by their teammate antisocial behavior, detracted their attentional focus away from the shooting task. To the best of my knowledge, this is the first study to identify a link between antisocial sport behavior and attention. Notably, antisocial teammate behavior was predictive of less attentional focus, both directly and indirectly through anger as a mediator.

Teammate Behavior and Performance

Our hypothesis that the prosocial group would perform better than the antisocial and control groups was only partially supported. The prosocial group scored more baskets and was more accurate in free-throw shooting than the control group, but was not better than the antisocial group. This finding supports the work of Al-Yaaribi et al. (2016), indicating that

the recipients of prosocial teammate behavior perceived higher performance during the match. It is also in line with previous research (e.g., Escarti & Guzman, 1999; Mouratidis et al., 2008), which has shown that positive feedback regarding one's performance improves future performance. The present finding, however, provides novel experimental evidence for the beneficial consequences of prosocial teammate behavior for performance.

Participants in the antisocial group also scored more successful baskets and had better free-throw shooting accuracy than those in the control group. This is an unexpected finding, given evidence showing that antisocial teammate behavior was negatively associated with perceived performance (Al-Yaaribi et al., 2016). The discrepancy in the findings may be attributed, at least in part, to the differences in the measures of performance used in the two studies. Al-Yaaribi et al. (2016) assessed perceived performance, whereas the current study assessed actual performance. Antisocial teammate behavior may have a negative influence on participants' perceptions of their performance but not on their actual performance. Previous research has also shown a discrepancy in the findings pertaining to perceived and actual performance (Dewar et al., 2013), thus findings pertaining to one measure of performance may not fully generalize to the other measure.

Another explanation for the discrepancy might be that increased anger and anxiety, resulting from antisocial behavior, led recipients to expend more effort, which improved performance. Antisocial teammate behavior may have encouraged the recipients to exert more effort on the task in order to prove that their teammate was wrong or prevent additional verbal abuse. It has been proposed that anger and anxiety can help to enhance performance (e.g., Lazarus, 2000; Robazza & Bortoli, 2007). Indeed, Al-Yaaribi et al. (2016) found evidence for an indirect pathway between antisocial teammate behavior and perceived performance that was serially mediated by anger and effort. Adding to these findings, here I found a significant positive association between shooting accuracy and anger.

Based on the current findings, one may wish to conclude that antisocial teammate behavior is beneficial for performance and should be encouraged in sport. However, I do not know how this type of teammate behaviors would affect teammate performance over a longer period, such as during an entire match. For example, repeatedly engaging in antisocial teammate behavior may have detrimental effects not only on the recipient but also on the entire team such as effort and cohesion (Al-Yaaribi & Kavussanu, 2017; Al-Yaaribi et al., 2016). It would be interesting to determine whether the long-term frequency of antisocial teammate behavior has positive or negative effects on performance.

Finally, it is worth noting that the participants and confederate had no history of playing together, and interacted only for a few minutes; thus, the experimental conditions did not accurately represent the nature of teams in real-world sports. In addition, the confederate was not gender-matched to all participants. It is not possible to create in a laboratory the same dynamics of a team that are evident in the real-world sport and manipulate prosocial and antisocial behaviors with real teammates. However, our experiment replicated some characteristics of a team sport by creating a cooperative goal structure in which the participants and confederate worked together and competed against other teams to achieve a collective gaol.

Study Limitations and Future Research Directions

Despite this experiment revealing some and interesting findings, limitations should be considered when interpreting the findings. First, the confederate was aware of the experiment's purpose and manipulation. This was inevitable in order to reduce the inconsistency of confederate performance and the verbalization of the comments across the three groups. Also, to ensure methodological benefits, it was important to make sure the confederate had a complete understanding of the manipulation. However, although none of the participants suspected that the teammate was a confederate in the experiment, in future

research, it would be beneficial if a trained confederate, who is blind to the study purpose, performs the manipulation. Second, although the present findings have good internal validity, like every laboratory study, its ecological validity is questionable, as laboratory-based studies cannot completely model the social-moral environment of real-world sport. Future research could consider using laboratory-based simulations of sport performance environments or conducting a field experiment. Third, it is unknown whether the findings can be replicated with high-level or professional athletes of different sports. For instance, it is possible that high-level athletes would respond differently to antisocial teammate behavior, because they may be more exposed to such behavior. Researchers could investigate this possibility using male and female players with different playing experiences across a wide range of sports.

Fifth, the number of taken shots is different across participants during the experimental session. It was not possible to standardize the number of taken shots by participants while trying to imitate the same dynamics of real teammates and manipulate teammate behaviors. Future research could manipulate whether the task duration and the frequency and intensity of teammate behaviors account for differences in the outcomes. For example, long-term frequency of antisocial teammate behavior could lead to extreme anger responses, which, in turn, might impair performance. Finally, the manipulated antisocial behaviors were constrained for ethical purposes which may have been too "mild" to have detrimental effects on performance. Thus, antisocial behaviors could have been perceived as motivational for some participants. Literature on sledging has demonstrated that sledging can also be perceived as motivational as well as detrimental for performance (e.g., Joseph & Cramer, 2011).

Conclusion

The present study provided novel experimental evidence to add to the literature on sport morality by pointing out the role of social environment in determining an athlete's thought,

feelings and actions. Specifically, prosocial teammate behavior had beneficial effects on the recipient's emotions, attention, and performance during competition. Moreover, the recipients of antisocial teammate behavior experienced negative emotions and disrupted attentional focus. Therefore, the current experiment has enhanced the understanding of the consequences of prosocial and antisocial teammate behaviors during a competitive sport task.

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Endnotes

[1] This analysis was conducted using PROCESS (Hayes, 2013) SPSS macro. The results showed that there was a significant indirect effect of antisocial behavior on attention via anger, b = –.10; 95% CI: –.25, –.01 with a medium effect size, K^2 = .10; 95% CI: .01, .22.

CHAPTER FIVE

Study 4: Teammate Prosocial and Antisocial Behaviors Predict Task Cohesion and Burnout: The Mediating Role of Affect

Abstract

The manner in which teammates behave toward each other when playing sport could have important achievement-related consequences. However, this issue has received very little research attention. In this study, I investigated whether: (a) prosocial and antisocial teammate behaviors predict task cohesion and burnout; and (b) positive and negative affect mediates these relationships. Two hundred and seventy-two (96 males; M_{age} = 21.86, *SD* = 4.36) team-sport players completed a multisection questionnaire assessing the aforementioned variables. Structural equation modeling using maximum likelihood estimation indicated that prosocial teammate behavior positively predicted task cohesion and negatively predicted burnout, and these relationships were mediated by positive affect. The reverse pattern of relationships was observed for antisocial teammate behavior which negatively predicted task cohesion and positively predicted burnout, and these relationships were mediated by negative affect. The study findings underscore the importance of promoting prosocial and reducing antisocial behavior in sport and highlight the role of affect in explaining the identified relationships.

Introduction

Over the last two decades, there has been a growing literature on moral behavior in sport (see Kavussanu, 2012; Kavussanu & Stanger, 2017). Sport is a social context, in which athletes are likely to participate, as well as be exposed to, prosocial behavior (e.g., helping a player off the floor) and antisocial behavior (e.g., verbally abusing a player). Although the majority of previous research has investigated primarily antecedents of these behaviors (e.g., Benson, Bruner, Eys, 2017; Bruner, Boardley, & Côté, 2014; Kavussanu, Stanger, & Ring, 2015; Sage, Kavussanu, & Duda, 2006), the potential consequences of these behaviors for the recipient have received scant research attention. The present study sought to fill this gap in the literature, by investigating consequences of prosocial and antisocial behaviors for the recipient.

Our study was guided by the social cognitive theory of moral thought and action (Bandura, 1991) which proposes that personal factors, behavior, and environmental factors, operate as interacting determinants of each other. In this theory, the social environment (e.g., significant others, peers) plays an important role in shaping the individual's behavior. Bandura (1991) also emphasized that in determining the morality of the conduct, one should consider the consequences of behavior for the recipient. In the context of sport, behaviors such as supporting or verbally abusing another player can have positive or negative psychological consequences for the recipient (Kavussanu, 2012). Bandura (1999) has also distinguished between proactive and inhibitive morality, which pertain to the power to behave humanely and to refrain from behaving inhumanely, respectively.

In sport research, these two aspects of morality have been investigated as prosocial and (absence of) antisocial behavior (Kavussanu & Boardley, 2009). Prosocial behavior is voluntary behavior intended to help or benefit another individual or group of individuals (Eisenberg & Fabes, 1998), while antisocial behavior is behavior intended to harm or

disadvantage others (Sage et al., 2006). These behaviors can be directed at opponents (e.g., helping or arguing with an opponent) and teammates (e.g., encouraging or criticizing a teammate). Given the amount of athletes' potential exposure to these behaviors within their team, teammate behaviors could have lasting consequences for the recipient. Prosocial behavior could enhance the recipient's motivation and subsequent performance (see Kavussanu & Boardley, 2009), while antisocial behavior could have negative psychological consequences for the recipient. In the present study, I focused only on teammate behaviors, because these behaviors are more likely to have achievement-related consequences for the recipient, and I investigated their direct and indirect relationships (through affect) with two important outcomes: task cohesion and burnout.

Prosocial Behavior

Although much research has examined antecedents of prosocial teammate behavior in sport, to date, only one study has investigated the consequences of this type of behavior for the recipient. Specifically, Al-Yaaribi, Kavussanu, and Ring (2016) asked soccer and basketball players, after a match they had just played, to complete questionnaires about their experiences during the match. They found that players' perceptions of prosocial teammate behavior were positively related to their effort, perceived performance, and commitment. In addition, the relationships between prosocial teammate behavior and effort and performance were mediated by enjoyment: Players who perceived their teammates behaving prosocially toward them, reported more enjoyment, which in turn was positively associated with both effort and performance.

Another potential consequence of prosocial teammate behavior is task cohesion, which reflects the degree of unity possessed by team members to work together toward achieving team goals (Eys, Loughead, Bray, & Carron, 2009a, 2009b). It has been suggested that perceptions of positive interaction, encouragement, and constructive comments may lead

sport participants to perceive mutual interdependence in pursuing task-relevant goals and a high-task cohesive team (Carron, Eys, & Martin, 2012). The conceptual model of team building (Carron & Spink 1993) identified that teammate task interaction and communication are key aspects of group processes that promote team cohesion. Eys et al. (2009b) found that task support among teammates, for example cheering on teammates and saying they're doing a good job, which are examples of prosocial teammate behavior, was a major factor in developing task cohesion in youths. The recipients of prosocial teammate behavior (e.g., encouragement, constructive feedback, etc.) may gradually form a stronger bond with teammates and feel more united in the pursuit of the team goals, thereby perceiving a higher level of task cohesion.

Bandura (2001) identified affective states as psychological mechanisms through which the social environment influences the individual's behavior. Prosocial teammate behavior could impact task cohesion through its effects on the recipient's positive affect, defined as the degree to which one feels enthusiastic, active, and alert, and has high energy, full concentration, and pleasurable engagement (Watson, Clark, & Tellegen, 1988). It is reasonable to expect that athletes would experience more positive affect when their teammates act in a prosocial manner toward them. In past research, perceptions of positive peer interactions were associated with positive affect and enjoyment (Smith, 2007; Ullrich-French & Smith, 2006), while prosocial teammate behavior positively predicted enjoyment (Al-Yaaribi et al., 2016). Satisfaction of athletes' affective needs can enhance their willingness to remain united and work together toward attaining the team goals (Eys et al., 2009a, 2009b). Indeed, in-group affect which is the positive feeling derived from being a team member, has been positively related to task cohesion (Bruner et al., 2014).

Prosocial teammate behavior could also help prevent burnout, which has been conceptualized as a cognitive-affective syndrome that has three dimensions (e.g., Raedeke,

1997; Raedeke & Smith, 2009): emotional and physical exhaustion, resulting from the physical and psychosocial demands of training and competition; reduced athletic accomplishment, which pertains to feeling of inefficacy and the tendency for a negative evaluation of one's performance; and sport devaluation, which refers to a negative, detached attitude toward sport involvement reflected in a lack of concern for sport and performance. Although most researchers consider emotional and physical exhaustion as the core dimension of burnout (e.g., Cresswell & Eklund, 2007; Shirom, 2005), others view the multi-dimensional nature of the construct as essential for its comprehensive understanding (e.g., Eklund & DeFreese, 2015; Gustafsson, Hassmén, Kenttä, & Johansson, 2008; Raedeke & Smith, 2009). In the present research, I adopted the multi-dimensional conceptualization of burnout.

Burnout is viewed as a reaction to chronic stress resulting from the demands made on a person's resources (Smith, 1986). It has been suggested that teammates can play a role in both the development and the prevention of burnout (Gustafsson et al., 2008; Smith, Gustafsson, & Hassmen, 2010). Prosocial behaviors from one's teammates, such as encouragement after a mistake, should buffer the stress experienced in sport and reduce one's vulnerability to burnout. These behaviors may enhance the recipients' ability to deal with the stress of training and competition because they may be perceived as indicators that one's teammates are concerned and care about the recipient of the behaviors. In addition, receiving positive feedback and being congratulated for good performance from one's teammates should make the recipient feel more confident about his or her performance, thus buffering feelings of inefficacy and reducing the negative evaluation of one's performance, which is one aspect of burnout. Encouragement from one's teammates should also help the recipient better deal with feelings of emotional and physical exhaustion.

Although no study has investigated the relationship between prosocial teammate behavior and burnout, supporting evidence for this link comes from research examining social support, which refers to social interactions aimed at inducing positive outcomes (Bianco & Eklund, 2001), and resembles prosocial behavior. Specifically, DeFreese and Smith (2013) found that perceived support availability and satisfaction with social support by one's teammates were inversely associated with burnout. Although no relationship emerged between burnout and support received by one's teammates, this may be due to the way received support was measured, that is participants were asked to rate the frequency of 40 supportive events (e.g., assisted you in setting a goal for yourself); these events may not have taken place very often in participants' athletic experience, as the received support scale was not developed within the context of sport.

The relationship between prosocial teammate behavior and burnout could be mediated by positive affect. Research has consistently revealed negative correlations between the three dimensions of burnout and positive affective variables, such as enjoyment (Price & Weiss, 2000; Raedeke & Smith, 2001). In addition, positive affect has been inversely associated with burnout in elite soccer players and individual sport athletes (Gustafsson, Skoog, Davis, Kenttä, & Haberl, 2015; Gustafsson, Skoog, Podlog, Lundqvist, & Wagnsson, 2013). Finally, teammate prosocial behavior has been positively associated with enjoyment (Al-Yaaribi et al., 2016). Taken together, these findings suggest that prosocial teammate behavior should lead to positive affect, which in turn should reduce burnout.

Antisocial Behavior

Antisocial behavior is behavior that violates others' rights and can have consequences for the individual's physical or psychological well-being (Kavussanu & Boardley, 2009; Kavussanu, Stanger, & Boardley, 2013); thus, it could interfere with the development of task cohesion. For example, expressing frustration at a teammate's (bad) performance could lead

the recipient to think that he or she is unable to contribute to team goals, leading him or her to experience a reduced sense of team unity. In past research (McLaren, Newland, Eys, & Newton, 2016), task cohesion was inversely associated with intra-team conflict (e.g., criticizing teammates when they make mistakes), which refers to negative behaviors expected to undermine interpersonal relationships (Ntoumanis & Vazou, 2005). Sullivan and Feltz (2001) reported similar findings between task cohesion and destructive intra-team conflict (i.e., showing anger at a teammate).

The proposed diminishing effect of antisocial teammate behavior on task cohesion may occur in part via negative affect, defined as "a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness" (Watson et al., 1988, p. 1063). In previous research, soccer and basketball players who perceived their teammates behaving antisocially toward them during a match, reported more anger (Al-Yaaribi et al., 2016), while athletes' perceptions of negative social interactions have been positively associated with anxiety (DeFreese & Smith, 2014). Both anger and anxiety have been inversely related to task cohesion (e.g., Borrego, Cid, & Silva, 2012; Bosselut, Heuzé, Eys, & Bouthier, 2010; Eys, Hardy, Carron, & Beauchamp, 2003). Thus, there is some evidence to suggest that negative affect may mediate the relationship between antisocial teammate behavior and task cohesion.

Antisocial teammate behaviors, such as receiving criticism from one's teammates about performance could be a source of stress, which is an antecedent of burnout (e.g., Gustafsson, Kenttä, & Hassmén, 2011; Raedeke & Smith, 2004), thus it could make the recipients more susceptible to burnout. Indeed, negative social interactions and teammate conflicts have been linked to athlete burnout (e.g., DeFreese & Smith, 2014; Gustafsson et al., 2008). This relationship could be mediated by negative affect, which has been consistently associated with athlete burnout (e.g., Gustafsson et al., 2013, 2015; Lemyre, Treasure, & Roberts, 2006).

Anger has been proposed as an affective response that could lead to burnout (Smith, 1986), and this emotion has been positively associated with antisocial teammate behavior (Al-Yaaribi et al., 2016). Taken together, these findings suggest that negative affect may mediate the positive relationship between antisocial behavior and burnout.

The Present Study

In sum, the findings described above suggest that prosocial and antisocial teammate behaviors could have important consequences for the recipient, and affective states may play a role in this process. The present research examined: (a) whether prosocial and antisocial teammate behaviors (hereafter referred to as prosocial and antisocial behaviors) are related to task cohesion and burnout; and (b) whether positive and negative affect mediate these relationships. I hypothesized that prosocial behavior would be positively related to task cohesion (e.g., Eys et al., 2009b) and negatively related to burnout (e.g., DeFreese & Smith, 2013). With respect to mediation, I expected that prosocial behavior would positively predict positive affect (e.g., Al-Yaaribi et al., 2016), which in turn would positively predict task cohesion (e.g., Bruner et al., 2014) and negatively predict burnout (e.g., Gustafsson et al., 2015).

The opposite pattern of relationships was expected for antisocial behavior. Specifically, I expected that antisocial behavior would be negatively related to task cohesion (e.g., McLaren et al., 2016) and positively associated with burnout (e.g., DeFreese & Smith, 2014). I also hypothesized that affect would mediate the relationships between teammate behaviors and task cohesion as well as burnout. In particular, antisocial behavior is expected to positively predict negative affect (e.g., Al-Yaaribi et al., 2016), which in turn would negatively predict task cohesion (e.g., Borrego et al., 2012) and positively predict burnout (e.g., Gustafsson et al., 2015).

Method

Participants were male (n = 96) and female (n = 176) athletes, recruited from 22 sports clubs from the West Midlands region of the UK, competing in netball (n=148), field hockey (n = 79), or soccer (n = 45). They ranged in age from 16 to 35 years old, with a mean age of 21.86 (SD = 4.36). At the time of data collection, they had an average of 3.03 (SD = 2.59) years playing for their current team and were competing at five different levels of competition: local (n = 84), district (n = 26), academy (n = 73), club (n = 13), and national (n = 76). Finally, participants had played 1-4 (4 %), 5-8 (2.2 %), 9-12 (31.3 %), 13-16 (13.6 %), 17-20 (22.4 %), and 21 or more (26.5 %) competitive matches for their current team during the season. Data collection took place between 3-6 months after the season had started.

Procedure

Having obtained ethical approval from the University Ethics Committee, head coaches of sports teams were contacted via email and were asked to permit their athletes to participate in the study. Before signing consent forms, participants were informed about the research purpose, their right to withdraw at any time, that participation was voluntary, and their responses would be used only for research purposes and would be kept confidential. They were asked to think about their general training and competition experiences with their team during the season and complete a questionnaire. Upon questionnaire completion, participants were fully debriefed and thanked for their participation. Data collection took place five months after the season had started. The questionnaires were completed either prior or after a regular training session and they were counterbalanced to prevent order effects.

Measures

Teammate behavior. Teammate behavior was measured using adapted versions of the two teammate behavior subscales of the Prosocial and Antisocial Behavior in Sport Scale (PABSS; Kavussanu & Boardley, 2009), utilized in a previous study (Al-Yaaribi et al., 2016).

The original subscales consist of nine items that measure prosocial (four items; e.g., encouraging a teammate, giving positive feedback to a teammate) and antisocial (five items; e.g., arguing with a teammate, verbally abusing a teammate) behaviors toward teammates. However, in line with Bolter and Weiss (2013), an additional item (supported me) was included to improve the internal reliability of the prosocial teammate behavior subscale. Participants were asked to rate how often their teammates engaged in each behavior toward them during the season on a 5-point scale, anchored by 1 (*never*) and 5 (*very often*). The stem "This season, my teammates" was followed by items measuring prosocial (e.g., supported me) and antisocial (e.g., criticized me) behaviors. Confirmatory factor analysis has shown that the adapted scale has a very good fit to the date, χ^2/df: 52.27/34, R-CFI: .971, SRMR: .057, R-MSEA: .044, with good-to-very-good internal consistency (α = .82 andα = .71 for the scores of prosocial and antisocial teammate behavior subscales (Al-Yaaribi et al., 2016).

Task cohesion. Task cohesion was measured using the task cohesion subscale of the Youth Sport Environment Questionnaire (YSEQ; Eys et al., 2009a). This subscale contains eight items and one spurious negative item to detect invalid responses. Example items are "I like the way we work together as a team" and "As a team, we are all on the same page". Participants responded on a 9-point Likert-type scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). The scores of this subscale have shown very good internal consistency (α = .89) in youth athletes (Eys et al., 2009a).

Athlete burnout. To measure burnout, I used the Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001). The ABQ consists of three 5-item subscales measuring: perceived emotional and physical exhaustion (e.g., "I'm exhausted by the mental and physical demands of my sport"); reduced sense of accomplishment (e.g., "I'm not performing up to my ability in my sport"); and sport devaluation (e.g., "I'm not into my sport like I used to be"). Participants reported the frequency of experiencing burnout on a scale ranging from 1

(*almost never*) to 5 (*almost always*). The scores of the three burnout subscales have shown very good levels of internal consistency, with alpha coefficient above .89 (e.g., DeFreese & Smith, 2014). Previous research has examined both overall burnout and the three separate dimensions of burnout (e.g., DeFreese & Smith, 2013; Raedeke & Smith, 2004). In this study, I investigated burnout as a higher-order factor with three sub-dimensions because: (a) this is a more parsimonious approach to model testing; (b) is in line with previous research (e.g., Raedeke & Smith, 2004) and (c) scores on the three dimensions were strongly correlated with each other (see Table 5.1). However, other researchers have used only the individual dimensions of burnout in their main analyses (e.g., Gustafsson et al., 2015).

Positive and negative affect. The 10-item of the International Positive and Negative Affect Schedule–Short Form (I-PANAS-SF; Thompson, 2007) was used to measure participants' positive (five items; e.g., determined, alert, inspired, attentive, active) and negative (five items; e.g., nervous, upset, hostile, ashamed, afraid) affect. This scale is a shortened version of the 20-item Positive and Negative Affect Schedule (PANAS; Watson et al., 1988). I used the shorter version because these items were deemed most relevant to the context of sport and more likely to be influenced by prosocial and antisocial behaviors. In addition, compared to the original PANAS, the I-PANAS-SF is more concise, less time consuming, and more suitable for participants from different cultures (Thompson, 2007). Players were instructed to recall to what extent they felt each of the ten emotions and to respond to the stem "This season, I felt…" Participants responded on a 5-point scale anchored by 1 (*very slightly or not at all*) to 5 (*extremely*). Thompson (2007) reported good internal consistency of the scale scores, with alpha coefficients of .80 and .74 for positive and negative affect, respectively.

Results

Preliminary Analyses

Prior to the main analyses, data were inspected for normality, missing values, and outliers following the procedure outlined by Tabachnick and Fidell (2007). Less than 5% of data were missing and these were replaced with the mean of the respective variable. No extreme outliers were detected (i.e., values higher or lower than 3 *SD*s from the mean). The values of kurtosis and skewness for each variable indicated normal distributions (−0.29 to 5.53 and −1.34 to 1.53, respectively). Kline (2010) suggested using ratio cut-off values of 10.0 for kurtosis and 3.0 for skewness.

Descriptive Statistics, Correlation Analysis, and Scale Reliabilities

Descriptive statistics and Cronbach's alpha coefficients for all study variables can be seen in Table 5.1. On average, participants reported that their teammates displayed sometimes-to-often prosocial behavior and never-to-sometimes antisocial behavior toward them. They also reported a moderate-to-high level of positive affect and task cohesion and a low-to-moderate level of negative affect and burnout (all three dimensions). Most correlations were in the expected direction. Coefficients of .10, .30, and .50, correspond to small, medium, and large effect sizes, respectively (Cohen, 1992). Prosocial behavior was strongly and positively associated with positive affect and task cohesion and inversely associated with negative affect and burnout, whereas the reverse relationships were observed for antisocial behavior. All scales showed very good-to-excellent internal consistency (alpha range = .87 - .95). Values greater than .90, .80, and .70 indicate excellent, very good, and good reliability, respectively (Kline, 2010).

Table 5.1

Descriptive Statistics, alpha coefficients, and zero-order correlations (N = 272)

Variables	*M*	*SD*	1	2	3	4	5	6
1. Prosocial behaviour	3.93	0.94	(.89)					
2. Antisocial behaviour	2.00	0.1	-.40**	(.84)				
3. Positive affect	3.97	0.96	.38**	-.26**	(.86)			
4. Negative affect	2.10	1.10	-.40**	.37**	-.32**	(.74)		
5. Task cohesion	6.59	2.22	.41**	-.36**	.55**	-.53**	(.91)	
6. Burnout	2.22	1.06	-.37**	.36**	-.51**	.55**	-.37**	(.83)

Note: Alpha coefficients are presented on the diagonal. Possible range of scores: 1-5 for all variables except for task cohesion (1-9).

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

Main Analyses

The purpose of this study was to examine whether prosocial and antisocial behaviors are associated with task cohesion and burnout, and whether these relationships are mediated by positive and negative affect. This purpose was investigated using Structural Equation Modelling (EQS 6.1; Bentler, 2003). The Mardia's normalized coefficient estimate was 34.89, indicating evidence of multivariate non-normality in the data. Therefore, the Robust Maximum Likelihood method was used to test the hypothesized structural model. The model fit was assessed with multiple fit indices: the Satorra–Bentler chi square (S-Bχ^2), the Robust Comparative Fit Index (R-CFI), the Bentler-Bonett Non-Normed Fit Index (R-NNFI), the Standardized Root Mean Square Residual (SRMR), the Robust Root Mean Square Error of Approximation (R-RMSEA) and its associated 90% Confidence Interval (CI). A good-fitting model is when values of the CFI and NNFI are close to or above .95, values of the SRMR and RMSEA are close to or below .08 and .06, respectively, and the lower end of 90% CI of the RMSEA contains the value of .05 (Hu & Bentler, 1999).

Testing the measurement and structural models. Initially, Confirmatory Factor Analysis (CFA) was conducted on each measure, separately, to assess the factor structure of the instruments used in this study. A second-order CFA was conducted for burnout with the three dimensions of exhaustion, reduced accomplishment, and sport devaluation as first-order factors, and burnout as second-order factor. Specifically, exhaustion, reduced accomplishment, and devaluation subscale scores were used as indicators of the global burnout latent variable (see Raedeke & Smith, 2004). Item scores served as observed indicators for analyses examining specific burnout dimensions.

These results are presented in Table 5.2, where it can be seen that all scales showed good factor structure. As recommended by Anderson and Gerbing (1988), a full measurement model was first tested and showed an adequate fit to the data: S-Bχ^2 (874) = 1459.54, p<.001;

R-CFI = .92; R-NNFI = .91; SRMR = .13; R-RMSEA = .05 (90% CI of the R-RMSEA = .04, .05) with factor loadings ranging from .67 to .94 and a median factor loading =.68.

Next, the hypothesized structural model was tested, which showed a good fit to the data: S-Bχ^2 (865) = 1396.76, p< .001; R-CFI = .94; R-NNFI = .94; SRMR = .05; R-RMSEA = .04 (90% CI of the R-RMSEA = .03, .04). As can be seen in Figure 5.1, prosocial behavior positively predicted positive affect and task cohesion and negatively predicted burnout. In contrast, antisocial behavior negatively predicted task cohesion and positively predicted negative affect and burnout. Positive affect positively predicted task cohesion and negatively predicted burnout, while the opposite pattern of results was observed for negative affect. All standardized path coefficients were significant. Prosocial and antisocial behaviors accounted for 19% and 21% of the variance in positive and negative affect, respectively. Teammate behavior and positive and negative affect accounted for 68% and 65%, of the variance in task cohesion and burnout, respectively.

Table 5.2

Fit indices of models of individual measures

Model	S-Bχ2	*df*	R-CFI	SRMR	R-RMSEA (90% CI)
Teammate behavior	47.65**	34	.98	.03	.03 (.00, .06)
Positive and negative affect	72.11**	34	.96	.03	.06 (.04, .08)
Task cohesion	45.31**	27	.97	.01	.05 (.02, .07)
Burnout	149.63**	87	.98	.02	.05 (.03, .06)

Note: S-Bχ2 = Satorra–Bentler chi square statistic; R-CFI = robust comparative fit index; R-NNFI = Bentler-Bonett non-normed fit index; SRMR = standardized root mean residual; R-RMSEA = robust root mean square error of approximation; CI = 95% confidence interval.
**p < .01.

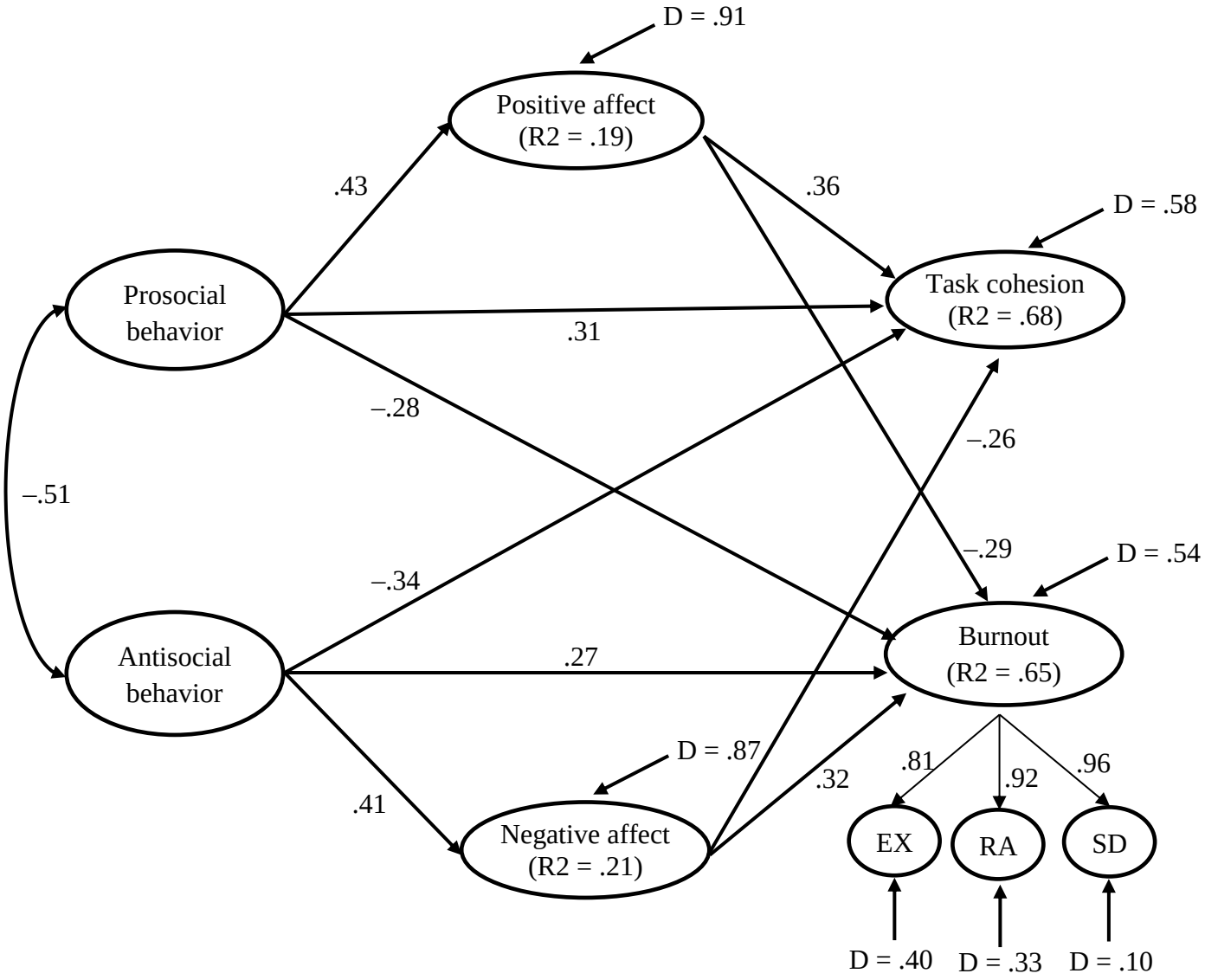

Figure 5.1. The structural model of teammate behaviors, affect, task cohesion, and burnout. *Note:* All path coefficients are standardized and significant ($p < .05$). For visual simplicity, the factor loadings and the correlation of error terms between positive and negative affect (r = -.22) are not shown in the model. EX = exhaustion; RA = reduced accomplishment; SD = sport devaluation.

Mediation analysis. To test mediation, I conducted bootstrapping analysis, a non-parametric resampling technique that constructs CIs for indirect effects. Bootstrapping has been found to have superior statistical power, minimizes Type I error for mediation testing, and does not make any assumptions about the distribution of the population (Preacher & Hayes, 2008). In this study, the standardized indirect effects were obtained from 1,000 bootstrapped resamples with 95% CI. When the CI of an effect does not contain zero, the effect is considered significant (Preacher & Hayes, 2008). As per Preacher and Kelley's (2011) recommendation, the effect size of the mediating effects is reported as the Completely Standardized Indirect Effect (CSIE). This can be interpreted with Cohen's (1992) effect size guidelines for squared correlation coefficients, as small, medium, and large size effect with values of .01, .09, and .25, respectively.

The results of the bootstrapping analysis showed that positive affect mediated the effect of prosocial behavior on task cohesion (β = .13; 95% CI = .16, .26; CSIE = .12; 95% CI = .07, .25) and burnout (β = –.14; 95% CI = –.23, –.07; CSIE = –.11; 95% CI = –.19, –.03). In addition, negative affect mediated the effects of antisocial behavior on burnout (β =.15; 95% CI = .06, .10; CSIE = .09; 95% CI = .06, .16) and task cohesion (β = –.11; 95% CI = –.11, –.02; CSIE = –.07; 95% CI = –.14, –.01).As indicated by the size of indirect effects and their associated CSIE, the mediation effects of positive affect in the model were moderated-to-large, while the mediation effects of negative affect on task cohesion and burnout were moderated-to-large and small-to-large, respectively.

Discussion

Over the last two decades, a large body of literature has investigated antecedents of prosocial and antisocial behaviors in sport (see Kavussanu, 2012; Kavussanu & Stanger, 2017 for reviews). However, to date, only one study has examined the potential consequences of these behaviors for the recipient (Al-Yaaribi et al., 2016). The present study attempted to fill

this gap in the literature by examining whether prosocial and antisocial *teammate* behaviors predict task cohesion and burnout and whether positive and negative affect mediate these relationships.

Teammate Behavior, Task Cohesion, and Burnout

In line with my hypothesis, the current findings showed that players who perceived that their teammates displayed prosocial behavior toward them during the sport season, for example, encouraged them after a mistake and gave them constructive feedback, also perceived higher task cohesion in their team. These findings support Carron and Spink's (1993) model by underlining the importance of positive social interaction such as mutual support and encouragement among teammates in the development of task cohesion. The findings are also consistent with research examining teammate support and task cohesion (Carron et al., 2012; Eys et al., 2009b). The recipient of prosocial behavior may have felt accepted by teammates and better integrated within the team.

Our findings also revealed that prosocial behavior negatively predicted burnout. This result is in line with the view that the social context contributes to athlete burnout (e.g., Cresswell & Eklund, 2007; Gustafsson et al., 2011). Prosocial teammate behavior may facilitate caring and supportive relationships among teammates, which may buffer the stress associated with training or competition and prevent athletes from developing burnout. This finding supports previous research (e.g., DeFreese & Smith, 2013, 2014), which has shown that positive social interaction was negatively related to burnout. These findings extend this work to prosocial teammate behavior, which is behavior occurring in the specific context of sport and includes a variety of acts by one's teammates that could have positive consequences for the recipient.

Consistent with the research hypothesis, the more antisocial behavior participants perceived, the lower the task cohesion they perceived in their team. Perhaps the recipients of

antisocial behavior felt that their roles and responsibilities with the team were not important, or their teammates may not have worked together to achieve the team goals. Antisocial teammate behavior may be the outcome of intrateam conflict, which has been negatively related to task cohesion in previous research (e.g., McLaren et al., 2016; Sullivan & Feltz, 2001). Taken collectively, these findings have implications for the conceptual model of team building (Carron & Spink, 1993), as they suggest that the psychosocial context of a team as reflected in teammate behaviors may be an important antecedent of task cohesion.

As hypothesized, antisocial behavior positively predicted burnout. Previous research has also found that negative social interactions and intra-team conflict increased burnout (e.g., DeFreese & Smith, 2014; Gustafsson et al., 2008). Verbally abusing, arguing, and criticizing a teammate are indices of negative social interaction. These findings highlight the importance of antisocial teammate behavior on burnout (e.g., Gustafsson et al., 2008, 2011). Such behavior could lead to increased perceptions of unsupportive interaction and conflict, which may increase burnout susceptibility. The findings of the present study are in line with the predictions of Bandura's (1991) theory that significant others in one's social environment play an important role on behavior. They also extended previous work in Chapter 2 by identifying task cohesion and burnout as additional potential consequences of prosocial and antisocial behaviors in sport.

The Role of Positive and Negative Affect

Positive affect mediated the relationship between teammate behaviors and task cohesion, such that, the more prosocial behavior exhibited by one's teammates during the sport season, the higher the positive affect experienced by the recipients, and in turn the higher their perceptions of task cohesion. This is in line with the social cognitive theory (Bandura, 2001), which suggests that affective states mediate the effects of the social environment on individuals' behavior. Chapter 2 has also revealed a link between prosocial

teammate behavior during matches and enjoyment, a positive affective state (Scanlan & Simons, 1992), while positive affect has been related to task cohesion (Bruner et al., 2014; Eys et al., 2003, 2009a). The research findings suggest that the mechanism through which prosocial teammate behavior may influence task cohesion, may be through enhancing positive affect. These findings provide further support for the assumption that athletes' affective responses to the athletic environment could have profound effects on cohesion (Carron et al., 2012; Eys et al., 2003).

Positive affect also mediated the relationship between prosocial behavior and burnout, with players who experienced more positive affect reporting lower levels of burnout. Thus, the relationship between prosocial behavior and burnout could be partly explained by positive affect. This is consistent with previous research (Gustafsson et al., 2013, 2015), which has shown that positive affect was negatively associated with burnout. Several studies have pointed out that psychological well-being could lead to effective coping strategies and prevention of burnout (e.g., Eklund & DeFreese, 2015; DeFreese & Smith, 2013; Raedeke & Smith, 2001). These findings suggest that prosocial teammate behavior could decrease burnout indirectly by increasing positive affect. That is, the recipients of prosocial teammate behavior would experience increased positive affect, which should reduce burnout during the sport season. This study provided the first evidence consistent with a mediational model.

As expected, negative affect mediated the relationship between antisocial behavior and task cohesion, such that antisocial behavior predicted negative affect which in turn was a negative predictor of task cohesion. This is in line with previous research showing that antisocial teammate behavior and negative social interactions have been positively associated with anger and anxiety (e.g., Chapter 2; DeFreese & Smith, 2014), both of which interfere with task cohesion (e.g., Bosselut et al., 2010; Eys et al., 2003). These findings provide support for the process through which antisocial behavior could diminish task cohesion. In

addition, negative affect mediated the relationship between antisocial behavior and burnout. This is not surprising given previous research linking negative affect to burnout (e.g., Gustafsson et al., 2013, 2015). Altogether, this study supports the role of affective responses proposed in Smith's (1986) model of burnout.

Practical Implications

The identified relationships between teammate behaviors and affect, task cohesion, and burnout have important practical implications. The study findings enhance the understanding of the mechanisms through which prosocial and antisocial teammate behaviors may influence task cohesion and burnout. Coaches should try to promote positive social interactions among teammates by rewarding prosocial and discouraging antisocial acts within the team as these acts could influence task cohesion, burnout, and affect. Therefore, coaches as well as players should be aware of the possible beneficial and detrimental consequences of teammate behaviors for the recipient and for the team as a whole.

Study Limitations and Future Research Directions

Although the present study revealed some interesting findings, it also has some limitations. First, the study data are cross-sectional, thus the causality of the proposed model pathways cannot be firmly established; the present results simply provide evidence that is consistent with the proposed models. Longitudinal or experimental studies are needed to clarify the direction of causality of the model pathways. For example, it is possible that task cohesion is an antecedent of prosocial teammate behavior: Teammates with high perceptions of task cohesion may act more prosocially toward each other. Moreover, athletes who experience burnout may engage in more antisocial behavior toward their teammates due to the negative emotions they feel. It is also possible that this relationship is bidirectional, in line with the tenets of social cognitive theory (Bandura, 1986, 2001) that the social environment and one's behavior influence each other in a reciprocal manner. A third limitation pertains to

the generalizability of the findings, which is limited to adult athletes from team sports. Investigating prosocial and antisocial behaviors in individual sports or in younger populations is warranted.

Conclusion

In conclusion, the present findings join the existing body of literature on moral behavior in sport by providing further support for Kavussanu and Boardley's (2009) assertions that prosocial and antisocial behaviors have achievement-related consequences. Moreover, they extend earlier findings of Chapter 2 by identifying relationships between prosocial and antisocial behaviors and the recipient's affect, task cohesion, and burnout. Finally, the present study makes a significant contribution to the literature that highlights teammates as a crucial social agent in sport with important consequences for the quality of one's athletic experience (e.g., DeFreese & Smith, 2014; McLaren et al, 2016; Smith, 2007).

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CHAPTER SIX

General Discussion

This chapter starts by providing an overview of the thesis purposes and studies. This is followed by discussing the main findings from the four studies described in the preceding chapters in relation to the relevant literature. In addition, this chapter outlines the theoretical and practical implications of the present findings, along with the limitations of the studies, and ends with recommendations for future research and an overall conclusion.

Overview of the Thesis Purposes and Studies

The primary aim of this thesis was to address an important gap in the existing literature in sport morality by investigating the potential consequences of prosocial and antisocial teammate behaviours on the recipient in various situations (during matches and a sport season) and samples (adult and adolescent team sports). Within this aim, the thesis has three purposes, which were to examine: (a) whether prosocial and antisocial teammate behaviours are related to effort, perceived and actual performance, commitment, attention, task cohesion, burnout, and affective outcomes; (b) whether affective outcomes, effort, and perceived performance mediate these relationships; and (c) whether motivational climate moderates the relationships between prosocial and antisocial teammate behaviours, enjoyment, anger, effort, perceived performance, and commitment.

Four studies were undertaken to investigate the three purposes: Study 1(Chapter 2) examined whether prosocial and antisocial teammate behaviours are related to enjoyment, anger, effort, and perceived performance during a match, and team commitment, and the mediating role of enjoyment, anger, effort, and perceived performance in adult football and basketball players. Study 2 (Chapter 3) aimed to replicate the findings of Study 1 (Chapter 2) in an adolescent male sample during matches played in a competitive football season and examined whether mastery and performance climate, respectively, moderate the relationships between prosocial and antisocial teammate behaviours, enjoyment, anger, effort, perceived performance, and commitment. Study 3 (Chapter 4) experimentally examined the effects of

prosocial and antisocial teammate behaviours on happiness, anxiety, anger, attention, and actual performance in a sample of undergraduate students. Finally, Study 4 (Chapter 5) examined whether prosocial and antisocial teammate behaviours are related to task cohesion and burnout, and whether positive and negative affect mediate these relationships in a competitive season (i.e., during training and matches) for adult team sport players.

Overview of Findings

Effort and Performance

Prosocial teammate behaviour, both during a competitive match (Chapter 2) and matches played in the season (Chapter 3), was positively related to effort. Players who perceived that their teammate encouraging, congratulating, and providing them positive feedback during matches, exerted more effort. In contrast, antisocial teammate behaviour was negatively related to effort. Verbally abusing, arguing, criticizing, swearing, and showing frustration at a teammate's poor play in matches, led the recipients to exert less effort. Previous research has shown that athletes' perceptions of task-involving and ego-involving peer climates were positively and negatively, respectively, related to coach-rated effort (Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012; Vazou, Ntoumanis, & Duda, 2006). The current findings extend previous research by demonstrating that not only is perceived peer climate a predictor of effort, but so is the actual perceived prosocial and antisocial teammate behaviours throughout matches.

Prosocial teammate behaviour was positively related to perceived and actual performance. The recipients of prosocial behaviour from teammates reported higher perceived performance during the match they just had played (Chapter 2) and matches throughout the season (Chapter 3) and performed better (Chapter 4). These findings support existing research showing that positive feedback regarding one's performance positively predicted future performance (Escarti & Guzman, 1999), perceived competence, and coach-

rated performance (Mouratidis, Vansteenkiste, Lens, & Sideridis, 2008). The findings of the three studies (Chapters 2, 3, and 4) highlight the importance of behaving in a prosocial manner between teammates for performance during competition.

Antisocial teammate behaviour was negatively related to perceived performance in Chapters 2 and 3. The recipients of antisocial teammate behaviour perceived that they have performed poorly both during the basketball matches (Chapter 2) and matches of the season (Chapter 3). The recipients may have interpreted antisocial teammate behaviour as disapproval of their own ability and competence to perform with the team, thus they evaluated their performance negatively.

These findings provide evidence that verbal persuasion and evaluative feedback from others are important factors on the players' judgment of the capabilities and skills (Bandura, 1989). The recipients of prosocial teammate behaviours may have been verbally persuaded by prosocial teammate behaviours that they have the capabilities and skills to perform during competition, thus they reported higher exerted effect and perceived performance. On the other hands, antisocial behaviours from one's teammates may have negatively affected the recipients' beliefs that they lack the required capabilities and skills to perform a task successfully, therefore they became less active during the competition and perceived their performance was poor.

Antisocial teammate behaviour was unrelated to perceived performance for the football sample in Chapter 2. It is possible that the negative link between antisocial teammate behaviour and perceived performance is moderated by the type of context and age. In Chapter 2, the five basketball players on the court have more frequent opportunities to interact with each other, thus they are more likely to engage in antisocial teammate behaviour during a match than football players. In Chapter 3, the sample was adolescent players, who may be more sensitive and vulnerable to the effect of antisocial teammate behaviour (Smith, 2007).

In addition, participants in Chapter 3 reported antisocial teammate behaviour occurred in matches played in the season, in other words, long-term frequency of perceived antisocial teammate behaviour. In both chapters, antisocial teammate behaviour had higher potential to harm the recipient's perceived performance.

Antisocial teammate behaviour was positively related to actual performance in the experimental chapter. The antisocial group performed better than the control group. This finding is inconsistent with those of Chapters 2 and 3 (cross-sectional), which showed that antisocial teammate behaviour was negatively related to perceived performance. A possible explanation for these inconsistent findings may be the different measures of performance. In the two cross-sectional studies (Chapters, 2 and 3), perceived performance was assessed, whereas in the experiment, actual performance was assessed. A similar discrepancy pertaining to the findings of perceived and actual performance was evident in previous research (Dewar, Kavussanu, & Ring, 2013). It is possible that even though the recipients of antisocial teammate behaviour perform well, they may still perceive their performance negatively. However, this explanation is tentative and needs to be investigated in future research because perceived performance and actual performance were examined separately in the present thesis.

It is important to point out that the beneficial effect of antisocial teammate behaviour on performance was evident in a single experimental task, which lasted only 2 minutes. Furthermore, the intensity of the manipulated antisocial behaviours was mild which may have been perceived as encouragement and supportive, whereas in the real-sport world (i.e., cross-sectional studies) players may engage in severe antisocial teammate behaviours which cannot be used due to ethical considerations. Thus, antisocial teammate behaviour should not be encouraged because it is highly likely that frequently engaging in antisocial teammate

behaviour over a longer period is highly likely to have detrimental effects for recipients' effort and perceived performance, like the case in Chapter 2 and 3.

The findings of Chapters 2, 3, and 4 collectively suggest that athletes who perceived that their teammates behaved prosocially toward them exerted more effort, reported high perceived performance, and performed better. In contrast, the recipients of antisocial teammate behaviour exerted less effort, perceived their performance poorly (except Chapter 2: football sample), and performed well (Chapter 5). These inconsistent results between antisocial teammate behaviour and performance could be due to the type of sport, age, and different producers and measures of performance (i.e., perceived vs objective).

Commitment

Chapters 2 and 3, which examined the relationship between prosocial and antisocial teammate behaviours and commitment with adult and adolescent athletes, provided evidence that positive social interactions, such as social support and feeling of enjoyment, are important contributors to team commitment (e.g., Santi, Bruton, Pietrantoni, & Mellalieu, 2014; Scanlan, Russell, Beals, & Scanlan, 2003). The recipients of prosocial teammate behaviour were more committed to their team, which may be because they perceived a sense of social support from teammates and had enjoyable experiences. Also, the recipients may have a higher likelihood of feeling accepted by their teammates, which was a strong source of continuing participation in sport (Ullrich-French & Smith, 2006, 2009).

Antisocial teammate behaviour, either during a competitive match and matches of the season, was unrelated to commitment, a finding consistent with previous research (Ntoumanis et al., 2012), which has shown that athletes' intention to continue at their clubs was not predicted by athletes' perceptions of ego-involving peer climate, which refers to negative behaviours directed towards teammates (e.g., making negative comments that put their teammates down and criticizing and laughing at their teammates when they make

mistakes), resemble antisocial teammate behaviours. Taken together, Chapters 2 and 3 suggest that adult and adolescent athletes' commitment may depend on prosocial behaviour rather than antisocial behaviour among teammates during matches.

Attention

Based on the results of the experimental chapter, antisocial teammate behaviour had a negative effect on the recipient's attentional focus. It is possible that the recipients paid less attention to the task at hand because they were distracted by their teammate's antisocial behaviour, or were focusing their attention on task-irrelevant thoughts such as thinking about why their teammate behaved antisocially toward them or trying to respond. These interfering thoughts should reduce the amount of attentional resources one devotes to a task (e.g., Hatzigeorgiadis & Biddle, 2008; Kavussanu, Willoughby, & Ring, 2012; Wulf, 2013). This finding is in line with recent research showing that processing pejorative task-relevant negative words could cause an interference effect for professional athletes' attentional focus (Lautenbach, Laborde, Putman, Angelidis, & Raab, 2016). Thus, the experiment suggests that antisocial teammate behaviour may have implications for the recipient's cognitive process.

Although the difference in attention between prosocial and control groups was not significant, the finding shows that encouraging and supporting a teammate helps him/her to effectively maintain concentrate on the task. It is possible that prosocial comments meant to encourage and support performance help the recipients to devote effective concentration to the task at hand. This suggests that the manipulated prosocial comments may have served as a reminder to the recipients to maintain their focus on the shooting task, whereas the manipulated antisocial comments appear to have directed the recipients' concentration away from the shooting task.

Task Cohesion and Burnout

The potential effects of prosocial and antisocial teammate behaviours on task cohesion and burnout were investigated in Chapter 5. Results showed that prosocial teammate behaviour was positively related to task cohesion and negatively related to burnout. Those players who perceived that, during training sessions and in matches throughout the season, their teammates displayed prosocial behaviour toward them, perceived higher task cohesion and were less vulnerable to burnout. These findings support studies showing that athletes' perceptions of positive social interactions in their team were positively related to task cohesion (e.g., Eys, Loughead, Bray, & Carron, 2009a; García-Calvo et al., 2014) and negatively related to burnout (e.g., DeFreese & Smith, 2013, 2014). That is, the recipient of prosocial teammate behaviour may perceive players in the team were more task-related and interdependent regarding achieving their team goals. Such behaviour may also promote caring and supportive relationships among teammates, thereby effectively buffering the stress stemming from the demands of training and competition and alleviating potential symptoms of burnout.

Antisocial teammate behaviour was negatively related to task cohesion and positively related to burnout, which supports previous research showing that athletes' perceptions of maladaptive social interactions negatively predicted task cohesion (e.g., McLaren, Newland, Eys, & Newton, 2016; Sullivan & Feltz, 2001) and positively predicted burnout (e.g., DeFreese & Smith, 2014; Smith, Gustafsson, & Hassmén, 2010). Perhaps teammates who behaved antisocially toward each other in the season perceived lower task interdependence and relatedness among teammates. Also, an antisocial sporting environment is highly likely to lead players to perceive lack of support, external pressure (non-training stress), and low coping resources available, which might all increase the burnout susceptibility (e.g., Gustafsson, Kenttä, & Hassmén, 2011; Raedeke & Smith, 2009). Interestingly, the findings

of Chapter 5 expand the knowledge base on the role of situational-social factors by providing evidence of how crucial teammate specific-sport moral behaviour is for task cohesion and burnout.

Affective Outcomes

Positive (e.g., enjoyment, happiness, and positive affect) and negative (e.g., anger, anxiety, and negative affect) affective consequences of prosocial and antisocial teammate behaviours were examined in the four studies. Prosocial teammate behaviour, during competition and the season, was positively related to positive affective outcomes. These findings support previous work, which also suggests that engaging in positive social interactions should lead to experience positive affective outcomes such as enjoyment (DeFreese & Smith, 2014; Vazou et al., 2006), happiness, and positive affect (Smith, 2007; Ullrich-French & Smith, 2006).

Antisocial teammate behaviour was positively related to negative affective outcomes (except for anxiety). The findings for anger are consistent in the cross-sectional and experimental studies and with the positive relationships found between being treated disrespectfully and increased anger (Lazarus, 1991; Miller, 2001). Moreover, the findings extend previous research in sport finding that negative peer interactions to be positively related to negative affect (DeFreese & Smith, 2014).

Anxiety was not influenced by the experimentally manipulated antisocial behaviour; no significant difference was found between the antisocial and control groups in anxiety. However, the antisocial group reported higher anxiety than the prosocial group. This is consistent with Chapter 5 showing that antisocial teammate behaviour during training and competition in the season was positively related to negative affect. Also, athletes' perceptions of antagonistic social interactions were positively related to perceived stress and inversely related to well-being (DeFreese & Smith, 2014). It is sensible that participants in the

antisocial group may have experienced higher anxiety because they felt threatened by their teammate while performing the task, while participants in the prosocial group may have perceived lower levels of anxiety because of support and encouragement provided by their teammate. Taken together, the results from the four studies suggest that the recipients of prosocial and antisocial teammate behaviours may experience positive and negative affective consequences, respectively.

In sum, the thesis findings show that perceived prosocial teammate behaviour was positively related to effort, performance, commitment, task cohesion, and positive affective outcomes, and negatively related to burnout. In contrast, perceived antisocial teammate behaviour was negatively related to effort, perceived performance (except Chapter 2; football sample), attention, and task cohesion, and positively related to actual performance, burnout, and negative affective outcomes (except anxiety). These findings are in line with Bandura's (1991) theory, which states that significant others in the social environment have important implications for one's behaviour, thoughts, and feelings. Also, Bandura (1991) suggested that transgressive behaviour can have negative consequences for the recipients.

Potential Mediators

The second purpose of the present thesis was to investigate the role of affective outcomes, effort, and perceived performance as mediators of the effects of prosocial and antisocial teammate behaviours on achievement-related consequences. Chapters 2 and 3 showed that prosocial teammate behaviour was positively related to enjoyment, which was, in turn, positively related to effort, perceived performance, and commitment. In Chapter 5, prosocial teammate behaviour was positively related to positive affect, which was, in turn, positively related to task cohesion and negatively related to burnout. These mediation findings provide support for Bandura's (1986, 2001) prediction that affective states serve as a mediator of the effect of the social environment on individuals' behaviour. These findings are

also in line with several studies that have shown that enjoyment was positively related to effort, performance (e.g., Cooke, Kavussanu, McIntyre, & Ring, 2013; Puca & Schmalt, 1999), and commitment (e.g., Scanlan et al., 2003); and positive affect was positively related to task cohesion (e.g., Bruner, Boardley, & Côté, 2014) and negatively related to burnout (e.g., Gustafsson, Skoog, Davis, Kenttä, & Haberl, 2015).

Antisocial teammate behaviour was positively related to anger, which was, in turn, positively related to effort (Chapter 2). Also, antisocial teammate behaviour was positively related to negative affect, which was, in turn, negatively related to task cohesion and positively related to burnout (Chapter 5). Previous research has revealed that anger was negatively related to effort (e.g., Cerin, 2004; Woodman et al., 2009) and task cohesion (e.g., Bosselut, Heuzé, Eys, & Bouthier, 2010); and negative affect was positively related to burnout (e.g., Gustafsson, Skoog, Podlog, Lundqvist, & Wagnsson, 2013).

The results of the mediation analyses (Chapter 4) support the idea that attention could be affect by emotion (Lazarus, 2000). Antisocial teammate behaviour was positively related to anger, which was, in turn, negatively related to effort attention. It seems reasonable to suggest that increased anger could be counterproductive because anger may shift the attentional focus away from the task at hand as the recipients may try to cope or control the anger response (Lazarus, 2000).

A consistent finding across Chapters 2 and 3 is that anger was unrelated directly to perceived performance, a finding yielded inconsistent support for either the facilitating or debilitating effect of anger on performance (e.g., Beedie, Terry, & Lane, 2000; Robazza & Bortoli, 2007). This discrepancy could be interpreted by considering the different levels of physical contact of sports examined in previous studies: rugby and hockey, which have higher levels of physical contact than football and basketball (i.e., medium-contact sports; Kavussanu, 2012) in Chapters 2 and 3. It should be noted that in Chapter 2, antisocial

teammate behaviour positively affected perceived performance via the serial effect of anger and effort. This finding supports, to some extent, the manner in which anger may facilitate performance by an increase in effort (e.g., Robazza & Bortoli, 2007; Woodman et al., 2009). However, this effect was weak in Chapter 2 and non-significant in Chapter 3. Therefore, the direct negative effect of antisocial teammate behaviour on perceived performance identified in Chapters 2 (basketball sample) and 3 is more important in terms of statistical strength.

As mentioned above, anger was unrelated to effort in Chapter 3. This is inconsistent with the identified positive relationship between anger and effort in Chapter 2. The diversity in methodologies may have accounted for this inconsistency. In Chapter 2, participants reported their experience of anger right after a match they had just played, while in Chapter 3, participants completed questionnaires about their experience of anger in regard to past matches in the season prior to or after a training session. Reported anger was higher in Chapter 2 than Chapter 3, indicating that elicited anger during a single match may only have an immediate and temporal effect on effort.

Mediation findings of Chapters 2, 3, and 3 have important implications for sport literature. First, they provide preliminary evidence for the existence of Bandura's (1986, 2001) prediction of the mediating role of affective states in the sporting context. Second, they enhance the understating of how prosocial and antisocial teammate behaviours could enhance effort, perceived performance, commitment, task cohesion, and prevent burnout through affective outcomes, confirming that athletes' psychological well-being also plays an important role for achievement-related consequences (e.g., Kavussanu & Boardley, 2009; DeFreese & Smith, 2014; Smith, 2007).

The relationships between prosocial and antisocial teammate behaviours and perceived performance were mediated by effort (Chapter 2 and 3). Exerting extra effort was linked to performance improvement (Cooke, Kavussanu, McIntyre, Boardley, & Ring, 2011; Cooke et

al., 2013). The recipients of positive feedback and encouragement from teammates reported higher perceived performance because they may have invested more effort, whereas teammates' verbal abuse and criticism resulted in less effort exerted by the recipients, and therefore, they devaluated their performance.

Perceived performance was another mediator in the prosocial and antisocial teammate behaviours-commitment relationships. As shown in Chapters 2 and 3, prosocial teammate behaviour during matches may have led the recipients to think they have performed well, which, in turn, increased their commitment, whereas the recipients of antisocial teammate behaviour may think their performance was poor and this, in turn, negatively affected their commitment. Previous research has revealed positive relationships between perceived competence, commitment (e.g., Weiss & Weiss, 2007), and continued sport participation (Ullrich-French & Smith, 2009), as well as between performance and commitment (Tsai Wen & Chang Kong, 2010). Collectively, results from Chapters 2 and 3 suggest that increased effort and perceived performance could be one way of enhancing perceived performance and team commitment, respectively, and this could be achieved by promoting prosocial behaviour and discouraging antisocial behaviour among teammates.

Motivational Climate as a Moderator

The third purpose of the thesis was to investigate whether athletes' perceptions of mastery and performance climate, respectively, moderate the relationships between prosocial and antisocial teammate behaviours, enjoyment, anger, effort, perceived performance, and commitment. Chapter 3 showed that the relationships between prosocial teammate behaviour and enjoyment and perceived performance were only evident for athletes who perceived moderate or high levels of coach-created mastery climate, with higher perceptions of mastery climate were associated with stronger relationships. When players perceived a team environment that enhances positive interactions, support, and skills improvement, as well as

perceived prosocial behaviour from teammates, they were more likely to enjoy and report higher perceived performance during matches played during the season. Athletes' perceptions of mastery climate were related to prosocial behaviour toward teammates, enjoyment, effort, and perceived competence (e.g., Boardley & Kavussanu, 2009; Reinboth & Duda, 2004; van de Pol, Kavussanu, & Ring, 2012). That is, the interaction effect between mastery climate and prosocial teammate behaviour may have led the recipients to experience more enjoyment and perceive better performance.

Antisocial teammate behaviour was only negatively related to perceived performance for players who perceived moderate or high levels of coach-created performance climate in their team. The tendency of this negative relationship became stronger as the players' perceptions of performance climate increased. A performance climate is characterized by outperforming teammates and intra-team competition, and has been associated with antisocial behaviour toward teammates and less effort (e.g., Boardley & Kavussanu, 2009; van de Pol et al., 2012). Hence, the integrated negative effects of performance climate and antisocial teammate behaviour may have led the recipients to perceive their performance was below their own expectations.

Chapter 3 provides support for the matching hypothesis (Harackiewicz & Sansone, 1991) and was the first, to the best of my knowledge, to highlight the importance of considering motivational climate as a mediator when investigating prosocial and antisocial teammate behaviours. Therefore, more work is needed to further understand these relationships.

Theoretical Implications

The present thesis has several implications for theoretical development in sport. The most significant overall contribution was addressing a topic that has received little attention in the literature: the potential consequences of prosocial and antisocial teammate behaviours

for the recipient. Supporting Kavussanu and Boardley's (2009) assertions, the thesis findings show that prosocial and antisocial teammate behaviours, respectively, have positive and negative achievement-related consequences for the recipients. Therefore, the thesis empirically demonstrates that prosocial and antisocial teammate behaviours fall within the moral domain (Turiel, 1983) by highlighting their potential consequences for athletes' physical and psychological well-being. In addition, Bandura (1991) has stressed the importance of the consequences of behaviour for others when judging behaviour as morally relevant.

The interactionist perspective adopted by social cognitive theory (Bandura, 1999), in which the social environmental, behavioural, and personal (i.e., cognitions, feelings, and thoughts) factors all operate as interacting determinants of each other, was supported by the present thesis. Specifically, in Chapter 3, interaction effects were identified between coach-created motivational climate and prosocial and antisocial teammate behaviours (representing the social environmental factors) to determine the recipients' behavioural, affective, and cognitive outcomes.

The findings generated from this thesis also support the social interactions literature on sport. Different forms of peer social interaction (e.g., perceived social support and positive and negative interactions) have been identified as salient contributors to perceived competence, commitment, and affective outcomes (e.g., Smith, 2007; Ullrich-French & Smith, 2009), task cohesion (e.g., Eys et al., 2009b; McLaren et al., 2016), and burnout (e.g., DeFreese & Smith, 2014; Gustafsson et al., 2008). In comparison to these works, the thesis findings only pertain to teammates' social behaviours in the context of sport, therefore representing a unique contribution to the current knowledge of peer relationships.

Another important contribution of the current thesis was exploring the potential consequences of perceived prosocial and antisocial teammate behaviours across diverse

contexts (e.g., during matches and a sport season), age samples (i.e., adults and adolescents), and gender. Therefore, the thesis supports the presence of prosocial and antisocial teammate behaviours during competition and training sessions in adult and adolescent team sports of both gender (e.g., Boardley & Kavussanu, 2009; Kavussanu, Seal, & Phillips, 2006; Kavussanu, Stamp, Slade, & Ring, 2009), offering a broad generalization of the findings.

Practical Implications

Based on the findings of the thesis, coaches, sport practitioners, and significant others who are interested in improving positive sport participation, performance, task cohesion, commitment, attention, and preventing athletes from burnout, should encourage their players to engage more in prosocial behaviour and refrain from behaving antisocially towards one another. This is in line with Bandura's (1999) view of morality, where people do good things and refrain from doing bad things. Persuading players to do this is not easy, but the persuasive power could be increased by pointing out the potential achievement-related consequences of prosocial and antisocial teammate behaviours for the recipient and team achievement.

Coaches and sport practitioners can educate players how to behave prosocially towards each other and reward those who engage in such behaviour in training and competition, while simultaneously discouraging those who engage in antisocial teammate behaviour and try to deter the motives of such behaviour (Boardley & Kavussanu, 2009). Doing so is important because it can create a positive team environment in which performance, cohesion, commitment, and positive affective outcomes can flourish and the chances for attention distraction, burnout, and negative affective outcomes can be minimized. A positive team environment is expected to foster positive moral development and build character (e.g., Kavussanu & Roberts, 2001).

Coaches, as the major contributor to motivational climate, can also help in promoting prosocial and deterring antisocial teammates behaviours via defining success based on skill mastery, personal improvement, and effort than outperforming others, normative feedback, and interpersonal competition with others (Boardley & Kavussanu, 2009). Chapter 3 showed that athletes' perceptions of mastery climate were positively related to prosocial teammate behaviour and adaptive outcomes, while athletes' perceptions of performance climate were positively related to antisocial teammate behaviour and maladaptive outcomes. Also, coaches through their coaching styles (i.e., autonomy-supportive coaching) should focus on providing choices for athletes to initiate a task independently and promoting feelings of competence and mutual caring among players. Moreover, they could reduce the frequency of antisocial teammate behaviour by diminishing the emphasis on controlling coaching style: winning, fame, and external rewards (e.g., Hodge & Gucciardi, 2015; Hodge & Lonsdale, 2011).

The moderation analysis provides evidence regarding the important roles of motivational climate in the magnitude of the relationships between teammate behaviours, enjoyment, and performance. How adolescents interpret their athletic environment determine the degree to which they enjoy their sport participation and perceive their performance. Therefore, for enhancing enjoyment and perceived performance coaches should focus on developing mastery climate in their teams.

Finally, the thesis findings provide some insight into the development of intervention strategies designed to improve sport participation, performance, commitment, attention, and task cohesion, and to deter burnout. These interventions should involve educating coaches and sport practitioners about the potential consequences of prosocial and antisocial teammate behaviours. Meetings and activities, such as group discussions of expected or displayed teammate behaviour during training sessions and matches, may help to implement and increase the frequency of prosocial teammate behaviour and decrease the occurrence of

antisocial teammate behaviour (Shields & Bredemeier, 1995). Also, examples of manipulated prosocial and antisocial teammate behaviours should be discussed during such interventions as they were generated from the field of sport.

Limitations of the Studies

Although the present thesis has revealed some interesting findings, there are a number of limitations to consider when interpreting them. First, three of the four studies were cross-sectional, thus assertions of cause and effect cannot be made from the hypothesized models. The findings have only provided evidence that the obtained data fit the hypothesized models. For example, it is possible that perceived performance could be an antecedent of teammate behaviour. Players who perceive that their performance is poor during a match may act more antisocially toward their teammates. Also, perceptions of high task cohesion in a team may lead players to display more prosocial teammate behaviour. This is concurrent with the idea of reciprocal relationships between the social environment and one's behaviour detailed in social cognitive theory (Bandura, 1986, 2001).

A second limitation pertains to the subjective measure of prosocial and antisocial teammate behaviours used in the cross-sectional studies. Although the PABSS has good psychometric properties, it measures self-reported not actual teammate behaviours, and the adapted scale measured perceived intent of the teammate behaviours rather than actual intent. So, one cannot judge whether or not teammate behaviours were purposeful or accidental. Self-report methods are inherently prone to inaccuracy in recall and social desirability, despite having their advantages in collecting data from large and varied samples. Moreover, the two teammate behaviour subscales measure only verbal prosocial and antisocial behaviours. In sport, players could also engage in physical teammate behaviour, such as helping a teammate off the floor or two teammates fighting over who is taking a free kick or a penalty, which cannot be captured by the PABSS. In addition, only the frequency of

teammate behaviours was measured in Chapters 2, 3, and 5 which did not account for the intensity or severity of the act.

Third, the primary focus of this thesis was on perceived prosocial and antisocial teammate behaviours. However, as these behaviours can also be displayed towards opponents (Kavussanu & Boardley, 2009), they may have consequences for them, which was not examined in this thesis. Finally, the thesis findings were delimited to team sports (i.e., football, basketball, netball, and field hockey) from regional competition (Chapters 2, 3, and 5) and a basketball shooting task with undergraduate students (Chapter 5) Therefore, caution must be taken regarding whether these findings can be generalized to other team sports or to high competitive levels.

Directions for Future Research

In order to overcome the aforementioned limitations, future researchers could consider using observational and longitudinal research designs. For instance, direct observation methods could provide more accurate data of actual teammate behaviour than self-report methods. Previously, researchers have employed self-report alongside observation methods to measure prosocial and antisocial behaviours during games (e.g., Kavussanu et al., 2006). Also, longitudinal research has shown that task cohesion and burnout change over time (e.g., Cresswell & Eklund 2007; Madigan, Stoeber, & Passfield, 2015; McLaren et al., 2016). It would be interesting to find out the extent to which the relationships between teammate behaviour and task cohesion and burnout vary over a season. Field experiments and laboratory-based simulations of real-world sport studies would be optimal for drawing definitive conclusions of how prosocial and antisocial teammate behaviours affect the recipients' achievement-related consequences.

An important extension line of the current research could be to investigate the effects of variables examined in Chapter 3 (e.g., motivational climate) together with variables examined

in Chapter 5 (e.g., task cohesion and burnout). Recent research has shown that perceptions of motivational climate were related to task cohesion (Ntoumanis et al., 2012) and burnout (Isoard-Gautheur, Guillet-Descas, & Duda, 2013). Future research may also wish to integrate measures of perceived and actual performance in one research study, which may verify the congruence between athletes' perceptions of performance and objective performance. Insights obtained from such work would enhance the understanding of the potential consequences of prosocial and antisocial teammate behaviours for the recipients.

The generalizability of the thesis findings could be extended by investigating the potential consequences of prosocial and antisocial teammate behaviours across a wide variety of team sports of high competitive levels and with different levels of physical contact. Perhaps players involved in high physical contact sports and elite athletes are exposed to or engage more in such behaviours, thus they may respond differently. Verbal prosocial (e.g., over-hearing complimentary comments between teammates about a player's performance) and antisocial (e.g., gossiping and ostracising) behaviours among teammates should be explored to expand understanding of moral behaviour. Future studies should also consider the intensity and severity of teammate behaviours, opponent behaviours, and behaviours among players of individual sports.

In an effort to further understand the relation between teammate behaviours and outcomes, future research should consider social support as potential underlying mechanism for this relationship. Different types of social support have been shown to have important implications for well-being (e.g., affect and burnout) and motivational outcomes (e.g., performance and commitment) for athletes (e.g., DeFreese & Smith, 2013; Rees & Freeman, 2010; Santi et al., 2014; Scanlan et al., 2003).

Finally, the mediating and moderating findings of the current thesis suggest that the effects of prosocial and antisocial teammate behaviours for the recipient are far more

complex than they seem, as teammate behaviours can have direct and indirect effects via one or more (serial) mediators. Also, the effect can be moderated by sport type, age of participants, and motivational climate. Clearly, this area is under-explored and needs further investigation.

Conclusion

The purpose of the present thesis was to investigate the potential consequences of prosocial and antisocial teammate behaviours for the recipient. Four studies examined this purpose in competition and the season among adult and adolescent team sport players. The thesis findings show that prosocial and antisocial teammate behaviours may have, respectively, beneficial and detrimental achievement-related consequences. The present thesis also highlights the potential mediators and moderators of the relationships between prosocial and antisocial teammate behaviours and the recipient's achievement-related consequences. A greater emphasis on coaches establishing a mastery climate should be prioritised, as well as encouraging prosocial behaviour and deterring antisocial behaviour among teammates to create a positive team environment that is highly conducive to team achievement and athletes' character building. Future researchers are ideally required to investigate other variables as potential consequences of prosocial and antisocial behaviours among teammates and with opponents in team and individual sports. This is necessary in order to gain a more complete understanding of sport morality.

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APPENDICES