Predicting Moral Behaviour in Sport: Individual and Interactive Relationships Involving Motivational Climate, Gender, and Perfectionism

by

April Hadley

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Introduction

A large proportion of Canadian youth aged 15 to 19 – approximately 60 percent – participate in organized sport (Canadian Fitness & Lifestyle Research Institute, 2015). Given this significant number, popular media portrayals of the behaviour of athletes have the potential to shape the behaviour of youth athletes (Bush, Martin, & Bush, 2004). Appropriate behaviour is determined in part by the internalized morals and values one has adopted (Bandura, 1991). With the exception of family, sports provide one of the most influential social environments with which an individual may be involved (Bruner, Boardley, & Côté, 2014). Throughout the course of a competition, incidents may occur that result in athletes choosing to behave in a manner that results in positive outcomes for others, or choosing to behave in a way that results in negative outcomes for others. For example, Sarah Tucholsky was a senior outfielder for the University of Western Oregon's softball team when she hit her first career home run (CBS News, 2008). In her excitement, she missed first base, and when she turned back to tag the base, she injured her knee. Unable to run, the opposing team's first base woman and their shortstop asked permission and carried Tucholsky around the bases resulting in a three-run victory for Tucholsky's team. In contrast, Elizabeth Lambert was a defender with the University of New Mexico's women's soccer team when she became infamous following a game in which she exhibited several aggressive and decidedly unsportspersonlike behaviours. Throughout the game she punched, tripped, tackled, and finally pulled an opposing player to the ground by her ponytail (Clayton, 2010), behaviours that eventually earned her a yellow card (a penalty in soccer).

Incidents of positive and negative behaviour in sport, as exemplified by the experiences

of Sarah Tucholsky and Elizabeth Lambert described earlier, have received considerable attention from both the public and the media highlighting the value of investigating moral behaviour in sport (Perry, Clough, Crust, Nabb, & Nicholls, 2015). How athletes choose between positive and negative behaviour may be influenced by many factors, including the influence of their personality and the influence of the environment. An even greater understanding of moral behaviour in sport may be obtained by simultaneously considering the interaction between personality and environmental factors (Bandura, 1991; Hodge & Lonsdale, 2011; Kavussanu, 2012). The present study was conducted in line with this contention.

Morality and Moral Behaviour in Sport

Morality is a cognitive process that evaluates the importance of promoting human welfare, fairness, and social responsibility and regulates voluntary behaviour consistent with that evaluation (Kavussanu, 2012; Shields & Bredemeier, 1986; Turiel, 2002). Within any situation, individuals will choose between several different ways to behave. Individuals' morality helps them to judge the appropriateness of different voluntary behaviours based on their personal values, social norms, and how the behaviours will affect other people (Turiel, 2002).

Previous research has explored a variety of elements that comprise morality including moral judgment, intent of action, and moral behaviour to understand morality in sport (e.g., Duda, Olson, & Templin, 1991; Dunn & Causgrove-Dunn, 1999; Kavussanu, 2006). Theorists and researchers (Bandura, 1991; Blasi, 1980, Kavussanu, 2006, 2008) suggest the latter is the most pertinent. Both Blasi (1980) and Bandura (1991) suggest that, although intent and judgment are central mechanisms within the morality process, behaviour is the most fundamental representation of this process. Similarly, Kavussanu (2008) argues that, ultimately, behaviour based on morals should be of most interest because that is what overtly affects others.

Consequently, there has been a change in the approach to sport-based morality research that has resulted in an attempt to understand actual moral behaviour and the consequences of that behaviour upon others (Kavussanu, Seal, & Phillips, 2006).

Individuals behave morally when they deliberately and voluntarily act on the impetus to "do the right thing for the right reason" (Shields & Bredemeier, 1995, p. 663) with the intent of producing positive consequences for others (Kavussanu & Boardley, 2012). Kavussanu (2006) distinguishes between two types of moral behaviour. Prosocial moral behaviour is voluntary behaviour that will benefit, assist, or generally result in positive consequences for others (Eisenberg & Fabes, 1998; Kavussanu, 2006). Examples of prosocial behaviour in sport include exhibiting positive sportspersonship such as refraining from scoring to aid an injured opponent, congratulating an opponent after a good play, and adhering to the rules of competition (Kavussanu, 2007). Antisocial moral behaviour is voluntary behaviour that will disadvantage, injure, or generally result in negative consequences for others (Eisenberg & Fabes, 1998; Kavussanu, 2006). Examples of antisocial behaviour that occur in sport include aggressive behaviour such as deliberately causing injury to an opponent to remove her from competition, negative sportspersonship such as purposive cheating, and consciously using banned performance enhancing substances (Kavussanu, 2007).

Value of Studying Moral Behaviour in Sport

There are both academic and applied contributions that can be made by studying moral behaviour in sport. Sport participation is frequently suggested as a venue in which to develop morality (Kavussanu & Roberts, 2001; Miller, Roberts, & Ommundsen, 2004; Shields & Bredemeier, 2007), but it may also inhibit the development of morality (Coakley, 2011; Shields & Bredemeier, 2007; Shields, LaVoi, Bredemeier, & Power, 2007). Evidence suggests that sport

provides the opportunity to develop morality and increase prosocial moral behaviour through experiencing teachable moments related to conflict resolution, self-control, and empathy (Shields & Bredemeier, 2007; Weiss, 2008). Conversely, sport may inhibit the development of morality and increase antisocial moral behaviour, as there are frequent experiences of cheating, aggression, and attempting to outperform others (Coakley, 2011; Shields & Bredemeier, 2007; Shields et al., 2007). From an academic standpoint, this study could provide further insight regarding the elements of sport that may contribute to the development of prosocial moral behaviour and antisocial moral behaviour in sport. From a practical standpoint, this information may be used to develop programs that can be used to positively shape athletes' morality.

Theoretical Foundations of Moral Behaviour in Sport

Moral behaviour researchers have used several different theoretical approaches to guide their investigations. Examples include the Social Cognitive Theory of Moral Thought and Action (SCTMTA; Bandura, 1991); the Stages of Moral Development Model (Kohlberg, 1976); 4-Component Model (Rest, 1984); and the 12-Component Model of Moral Action in Sport (Shields & Bredemeier, 1995). The SCTMTA was used a framework for this study given its application in several sport-based morality studies (Kavussanu, 2008) and the interest in exploring factors that influence moral behaviour. In the SCTMTA, there is a direct focus on manifested behaviour (Bandura, 1991). As the SCTMTA suggests that both the environment and personality are interacting determinants of behaviour, the present study examined the influence of both factors on moral behaviour.

According to SCTMTA, behaviour is controlled by two primary mechanisms: (a) social sanctions and (b) internalized self-sanctions (Bandura, 1991). Social sanctions guide behaviour such that an individual will engage in behaviour that will result in a positive social appraisal, or

abstain from a particular behaviour due to the possibility of a negative social appraisal. Internalized self-sanctions guide behaviour such that an individual will be motivated to behave in a manner that will support a positive self-evaluation, or refrain from engaging in behaviour that would produce a negative self-evaluation. Therefore, in a given context, the environment contributes to appropriate moral behaviour through anticipated social sanctions, while personality contributes to appropriate moral behaviour through anticipated self-sanctions. The following sections present environmental and personal factors that may be influential in this process as it plays out in sport.

Environmental Factors that Influence Moral Behaviour

A considerable body of research has investigated the relationship between environmental factors and moral behaviour in sport (Hodge & Lonsdale, 2011; Kavussanu & Ntoumanis, 2003; Kavussanu & Spray, 2006; Shields & Bredemeier, 2007; Silva, 1983; Vallerand, Deschaies, & Cuerrier, 1997). Much of this research has focused on two factors: the characteristics of sport and the perceived motivational climate.

Characteristics of sport. A variety of characteristics of sport have been found to influence the expression of moral behaviour (Kavussanu, 2007; Kavussanu & Ntoumanis, 2003; Shields & Bredemeier, 2007; Silva, 1983). Silva (1983) found that as the level of physical play increased from non-contact to collision the acceptance of aggressive acts increased. Vallerand et al. (1997) found that athletes from team sports were less concerned with the well-being of their opponents than athletes from individual sports. Similarly, research (Conroy, Silva, Newcomer, Walker, & Johnson, 2001; Kavussanu, 2012) found that as the level of competition increases there is an increase in antisocial behaviour. Collectively, this body of research suggests that

moral behaviour is more of a concern among athletes who take part in contact team sports at high levels of competition.

Motivational climate. The achievement environment plays a central role in regulating cognition, emotion, and behaviour in sport (Carr & Wyon, 2003). Within achievement goal theory, the achievement environment is defined by the motivational climate (Nicholls, 1989). It is not surprising, then, that motivational climate has been posited to influence moral behaviour among athletes (Kavussanu, Roberts, & Ntoumanis, 2002).

Motivational climate refers to the degree to which the achievement environment emphasizes particular types of goals (Kavussanu et al., 2002). There are two types of motivational climate that present in achievement situations: a mastery climate and a performance climate (Ames, 1992; Nicholls, 1989). A performance climate exists when the sport setting promotes success and failure in normative terms. This climate emphasizes the importance of comparing one's ability to others, highlights interpersonal competition, and defines winning as the most salient indicator of success (Kavussanu & Spray, 2006). In contrast, a mastery climate exists when the sport context promotes success and failure in self-referenced terms. This climate emphasizes skill development and improvement, highlights intrapersonal competition in terms of personal bests, and defines success through mastery and learning (Roberts, 2012).

The two types of motivational climate may promote antisocial and prosocial moral behaviour to different degrees. Kavussanu and Spray (2006) suggest that a performance climate may encourage a "win at all costs" attitude, which encourages athletes to do anything to win including cheating, breaking the rules, and/or aggressive behaviour. When the environment strongly encourages players to demonstrate their superiority and dominance, the outcome of winning becomes more important than the process of competing. Athletes performing within

such a climate may engage in antisocial behaviour in order to exhibit superior ability.

In contrast, a mastery climate may encourage skill development and personal improvement, which encourages athletes to focus on self-referenced criteria whereby emphasis is placed on intrapersonal (rather than interpersonal) competition (Kavussanu, 2006; Nicholls, 1989). When the environment strongly encourages players to develop their skills and improve, the outcome of winning becomes less important than striving to improve throughout the process of competition. Athletes performing in this type of climate may engage in prosocial behaviour to facilitate learning and improvement. Therefore, when athletes compete in a performance climate where the focus is on winning, not skill development and improvement, prosocial behaviour is less advantageous, while antisocial behaviour may facilitate success. In contrast, when athletes perform in a mastery climate where the focus is shifted from winning to personal improvement, prosocial behaviour facilitates success and antisocial behaviour is less advantageous.

Proposed theoretical relationships between a performance climate and antisocial behaviour, and between a mastery climate and prosocial behaviour, have been extensively studied in soccer (see Boixadós, Cruz, Torregrosa, & Valiente, 2004; Kavussanu, 2006; Kavussanu et al., 2006; Kavussanu & Spray, 2006; Miller, Roberts, & Ommundsen, 2005; Ommundsen et al., 2003). Studies that investigated relationships between a perceived performance climate and moral behaviour have consistently reported positive correlations with antisocial moral behaviour and negative correlations with prosocial moral behaviour (Boixadós et al., 2004; Fry & Newton, 2003; Kavussanu, 2006; Kavussanu et al., 2006; Kavussanu & Spray, 2006; Ommundsen, Roberts, Lemyre, & Treasure, 2003). For example, Boixadós and colleagues (2004) investigated the relationship between the perceived motivational climate and moral behaviour among male youth soccer players ($N = 472$). A performance climate was

positively correlated with antisocial behaviour (r = .18). Similarly, Kavussanu et al. (2006) reported a stronger positive correlation between a performance climate and antisocial moral behaviour (r = .74) and a negative correlation between a performance climate and prosocial moral behaviour (r = -.59) among male youth soccer players (N = 331).

Similarly, studies that investigated relationships between a perceived mastery climate and moral behaviour have consistently reported negative correlations with antisocial moral behaviour and positive correlations with prosocial moral behaviour (Fry & Newton, 2003; Kavussanu, 2006; Kavussanu et al., 2006; Ommundsen et al., 2003). For example, Kavussanu et al. (2006) found that a mastery climate was positively correlated with reported prosocial moral behaviour (r = .69), while negatively correlated with reported antisocial moral behaviour (r = -.58) among male youth soccer players (N = 331). In addition, Fry and Newton (2003) reported that perceptions of a mastery climate were positively correlated with sportspersonship behaviour (r = .32) among male and female youth tennis players.

Two studies (Miller et al., 2004; Ommundsen, Roberts, Lemyre, & Treasure, 2003) examined whether athletes' perception of the motivational climate, defined primarily by performance or mastery goals, had an influence on their sportspersonship behaviour. Miller et al. (2004) examined the relationship between the perceived motivational climate and dimensions of sportspersonship among male and female youth soccer players, while Ommundsen and colleagues (2003) only sampled male youth soccer players. Where the perceived climate was found to be high mastery/low performance a positive relationship existed between dimensions of sportspersonship (Miller et al., 2004) and a negative relationship existed with antisocial behaviour (Ommundsen et al., 2003). Where the perceived climate was found to be low mastery/high performance, a negative relationship existed between several dimensions of

sportspersonship (Miller et al., 2004) and a positive relationship existed with antisocial behaviour (Ommundsen et al., 2003).

As indicated in the preceding paragraphs, research (Boixadós et al., 2004; Fry & Newton, 2003; Kavussanu, 2006; Kavussanu et al., 2006; Kavussanu & Spray, 2006; Miller et al., 2004; Ommundsen et al., 2003) has generally supported the theoretical links between a performance climate and antisocial behaviour, and a mastery climate and prosocial behaviour. Limitations of this body of research are that participants were predominantly male youth from one medium contact team sport (namely, soccer). To build upon the existing literature, it would be valuable to examine if findings regarding moral behaviour and motivational climate are transferrable to other medium contact team sports.

Individual Factors that Influence Moral Behaviour

A large body of research has investigated the relationship between individual factors and moral behaviour in sport including demographic characteristics such as: age (Kavussanu et al., 2006), gender (Duda et al., 1991; Kavussanu & Ntoumanis, 2003; Weiss, Kipp, & Goodman, 2015), years of involvement in sport (Kavussanu & Ntoumanis, 2003), and personality traits such as achievement goal orientation (Kavussanu & Roberts, 2001; Sage & Kavussanu, 2007; Sage, Kavussanu & Duda, 2006). In the following sections, previous research related to individual factors that influence moral behaviour including demographic characteristics and personality traits will be presented.

Demographic characteristics. Age, gender, and years of experience have been related to moral behaviour in sport. In relation to age, Kavussanu and colleagues (2006) found that as age increased, fewer prosocial behaviours and more antisocial behaviours occurred. In relation to gender, results from several studies suggest that female athletes endorse play that reflects

prosocial behaviour to a greater degree than males, whereas males are more likely to sanction the use of antisocial behaviour including cheating and potentially injurious behaviour (Duda et al., 1991; Kavussanu & Ntoumanis, 2003; Weiss et al., 2015). In relation to years of experience, results also indicated that there were negative effects on morality as years of involvement in a particular sport increased (Kavussanu et al., 2006). Taken collectively, this body of research suggests that moral behaviour is more of a concern among athletes who are older, male, and have played their sport for a long time.

Personality traits. Much of the sport morality research has concentrated on the degree to which specific personality traits predict moral behaviour (Kavussanu, 2012). Achievement goal orientation is a trait frequently studied in this regard (Kavussanu & Roberts, 2001; Sage & Kavussanu, 2007; Sage et al., 2006). Achievement goal orientation is considered an achievement motivation construct (Nicholls, 1989) in that it influences the criteria utilized to define success and failure within achievement contexts and motivates cognitive, emotional, and behavioural responses within those contexts. More specifically, achievement goal orientations reflect peoples' dispositional tendencies to rely on particular criteria when judging success and failure in achievement situations (Nicholls, 1989). Nicholls (1989) identified two achievement goal orientations: a task orientation and an ego orientation. Individuals who are predominantly task-oriented define success through learning, mastery, or improvement (Roberts, 1992). In contrast, individuals who are primarily ego-oriented define success through the demonstration of superior ability relative to others (Roberts, 1992).

Individuals' achievement goal orientation influences their perception of the degree to which certain behaviours are acceptable within specific contexts (Nicholls, 1989). Kavussanu (2007) suggests that within sport contexts, task-oriented individuals may demonstrate a greater

predisposition to fair play, adherence to rules, and respect officials as this helps them validate their mastery of the task. Conversely, ego-oriented athletes may be more likely to demonstrate acceptance of intentionally injurious behaviour, reduced levels of moral judgment, and unsportspersonlike conduct, as doing so may help them establish superiority over their competitors. Several studies (Duda et al., 1991; Dunn & Causgrove Dunn, 1999; Kavussanu & Roberts, 2001; Lemyre, Roberts, & Ommundsen, 2002; Sage et al., 2006) that attempted to produce empirical support for these proposed relationships found that among adolescents in a variety of sports (i.e., basketball, hockey, soccer) a high ego orientation was positively associated with legitimizing aggressive behaviour and unsportspersonlike behaviour. Conversely, studies (Duda et al., 1991; Dunn & Causgrove Dunn, 1999; Lemyre et al., 2002) have generally found that a high task orientation is positively associated with sportspersonship behaviour.

Given that the relationships between achievement goal orientation and moral behaviour in sport are relatively well-established, new insights may be produced by considering alternative personality traits (Kavussanu, 2007). In choosing which traits to consider, researchers should focus on those that, similar to achievement goal orientation, define an individual's achievement motivation, are relevant to the domain of sport, and demonstrate theoretical links to moral behaviour (Dunn, Causgrove Dunn, & Syrotuik, 2002; Stoeber, 2014). As discussed in the subsequent sections, the personality trait of perfectionism meets these criteria.

Perfectionism

Establishing lofty performance goals, striving for excellence, and a predisposition to hypercritical assessments are characteristics that exemplify elements of perfectionism (Stoeber, 2012). Perfectionism may be considered an achievement motivation construct as it influences the manner in which individuals interpret, feel, and behave in an achievement environment such

as sport (Dunn et al., 2002; Stoeber, 2014). Perfectionism is a common personality trait that can be observed in many of life's domains, but specifically in performance-oriented areas such as sport (Stoeber, 2014). Indeed, sport appears to facilitate the endorsement of perfectionistic tendencies given that at high levels of competition, flawless performances are required for success (Flett & Hewitt, 2005). As such, perhaps it is not surprising that applied sport psychologists have recognized that ~~"~~many of the most effective world class athletes are perfectionist in their orientations" (Hardy, Jones, & Gould, 1996, p. 243). Perfectionism also demonstrates clear links to morality. To demonstrate these links, it is first necessary to describe theoretical frameworks of perfectionism.

Tripartite model of perfectionism. Multiple models have been put forth to explain the complex relationships perfectionism shows with adaptive and maladaptive cognition, affect, and behaviour (see Flett, Hewitt, Blankstien, & Mosher, 1995; Gaudreau & Thompson, 2010; Stoeber & Otto, 2006). One of these models, namely the Tripartite Model (Stoeber & Otto, 2006), has been repeatedly reproduced in studies that group athletes according to their perfectionistic tendencies (Dunn et al., 2002; Gotwals, 2011; Gotwals & Spencer-Cavaliere, 2014; Sapieja, Dunn, & Holt, 2011) and has been found to capture perfectionistic athletes' perspectives toward achievement in sport (Gotwals & Spencer-Cavaliere, 2014). The Tripartite Model contends that perfectionism comprises two primary dimensions: perfectionistic strivings and perfectionistic concerns (see Figure 1). Perfectionistic strivings refer to the combination of setting exceptionally high personal standards and a self-oriented desire to achieve perfection (Stoeber, 2014). Perfectionistic concerns refer to tendencies to be overly concerned about personally committed mistakes, to doubt the quality of personal performance, and to perceive irrational and socially prescribed demands for perfection. Different profiles across these two

dimensions are then suggested to reflect different perfectionistic orientations: healthy perfectionists exhibit high levels of perfectionistic strivings and low levels of perfectionistic concerns; unhealthy perfectionists exhibit high levels of perfectionistic strivings and high levels of perfectionistic concerns; and non-perfectionists exhibit low levels of perfectionistic strivings and undifferentiated levels of perfectionistic concerns.

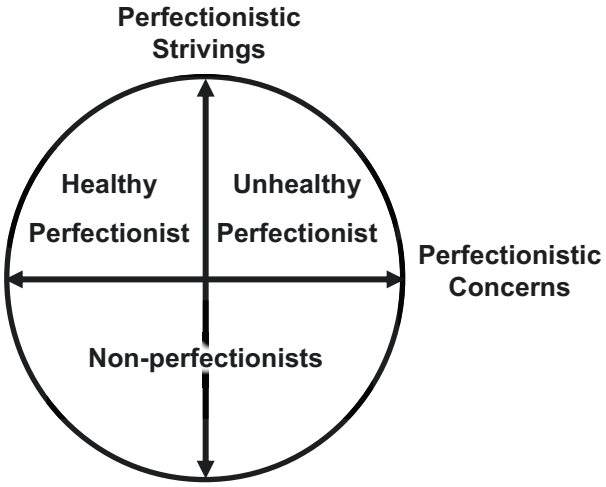

Figure 1- Tripartite model of perfectionism. Adapted from ―Positive Conceptions of Perfectionism: Approaches, Evidence, Challenges,‖ by J. Stoeber and K. Otto, 2006, Personality and Social Psychology Review, 10, p. 296. © 2006 by Lawrence Erlbaum Associates, Inc.

Hamachek (1978) put forth an early conceptualization of perfectionism that fits well with the tripartite model's conceptualization of healthy and unhealthy perfectionism (Stoeber & Otto, 2006). According to Hamachek (1978), normal perfectionists, described hereafter as healthy perfectionists, display tendencies to celebrate their own skills and value of their accomplishments. Similarly, healthy perfectionists are characterized by tendencies to strive for perfection, to derive pleasure from their efforts to achieve that standard, and to not be overly concerned about others' approval or disapproval of their efforts (Stoeber, 2014; Gotwals & Spencer-Cavaliere, 2014). These tendencies are founded in healthy perfectionists' ability to clearly delineate between performance outcomes and self-worth. To healthy perfectionists, a less than perfect performance reflects the outcome of their efforts, but not their worth as a person.

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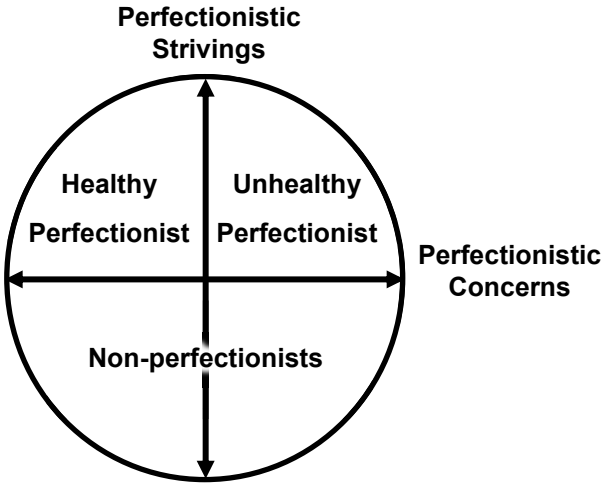

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In contrast, Hamachek (1978) suggests that neurotic perfectionists, described hereafter as unhealthy perfectionists, are motivated by a fear of failure, judge self-worth on performance, and always feel that they ―could and should do better" (p. 27). Likewise, unhealthy perfectionists are characterized by tendencies to demand perfection, are rarely satisfied with their performance in an activity, experience increased external pressure to achieve, and are less able to adapt to achieving a less than perfect performance resulting in demonstrations of frustration and anxiety (Gotwals & Spencer-Cavaliere, 2014; Stoeber, 2014). These tendencies are founded in unhealthy perfectionists' tendency to critically link performance outcomes to evaluations of self-worth. To an unhealthy perfectionist, an imperfect performance suggests an imperfect individual and, as a result, one who cannot make claims to inherent value and worth.

Perfectionism and Moral Behaviour

The relationship between perfectionism and prosocial and antisocial behaviour may demonstrate similar dynamics to the relationship between achievement goal orientation and prosocial and antisocial behaviour. Parallels may be drawn between healthy perfectionism and prosocial moral behaviour that are similar to the relationship between a task orientation and prosocial moral behaviour. Grounded on healthy perfectionists' tendency to appreciate their effort and skill, and accept that approval is not contingent upon success, they may engage in sport for its inherent value and enjoyment leading to more prosocial behaviour and a decrease in antisocial behaviour. Likewise, parallels may be drawn between unhealthy perfectionism and antisocial moral behaviour, similar to the relationship between an ego orientation and antisocial moral behaviour. Based on unhealthy perfectionists' tendency to engage in sport as a result of internal and external pressures, belief that approval is contingent on success, they may engage in sport to validate feelings of self-worth and demonstrate a tremendous desire to avoid failure

leading to a willingness to do anything to win which may promote antisocial behaviour and decrease prosocial behaviour in sport.

Empirical relationships. These theoretical links between perfectionism and moral behaviour have not yet been empirically investigated within sport contexts. However, three studies have examined relationships between perfectionism and morality outside of sport contexts (see Agerström, Möller, & Archer, 2006; Flett, Sawatzky, & Hewitt, 1995; Yang, Stoeber, & Mu, 2015). Two of these studies (Flett et al., 1995; Yang et al., 2015) examined perfectionism from a multidimensional perspective. As such, these two studies will be reviewed here.

Flett and colleagues (1995) examined the relationship between multidimensional perfectionism and the goal to ~~–b~~behave in a perfectly moral and ethical fashion" (p. 117) among undergraduate students (N = 261). Only organization, a facet of perfectionistic strivings, was found to have a small positive relationship with the goal of behaving morally (r = .15). Yang et al. (2015) examined how moral perfectionism related to moral behaviour judgments among Chinese college students (N = 539). Moral perfectionism reflects a domain-specific form of perfectionism whereby individuals strive for perfection in regards to their ideals, integrity, and convictions. More specifically, moral perfectionism comprises personal moral standards (i.e., an individual's tendency to strive to behave in a perfectly moral manner) and concern over moral mistakes (i.e., exhibiting concern when these high moral standards are not met). Results from this study indicated that personal moral standards was positively related to antisocial behaviour judgments (rs ranged from .23 to .33) and that concern over moral mistakes was positively related to acts that violated others' rights (e.g., keeping valuables that others have lost) and acts that violated family ethics (e.g., having an extramarital affair; rs = .19 and .21, respectively).

The studies by Flett et al. (1995) and Yang et al. (2015) provide valuable preliminary insight into the relationship between morality and perfectionism. However, this body of research has several limitations. Given that perfectionism is posited to be domain specific (Dunn, Gotwals, & Causgrove Dunn, 2005; Stoeber & Stoeber, 2009), it is unclear if these findings enhance the understanding of the relationship between moral behaviour and perfectionism in sport. Furthermore, both studies focused on how facets of perfectionistic strivings and perfectionistic concerns—when considered individually—relate to morality. Such research does not produce insight into how orientations defined by the simultaneous consideration of perfectionistic strivings and perfectionistic concerns (such as healthy and unhealthy perfectionism) may relate to moral behaviour. Taken collectively, these limitations suggest that it would be valuable to examine whether athletes with a healthy perfectionistic orientation and athletes with an unhealthy perfectionistic orientation differ in their propensities to moral behaviour in sport.

Interactions Between Perfectionism, Gender, and Motivational Climate

As indicated in the previous sections, both motivational climate and gender show consistent relationships with moral behaviour in sport. Although yet to be tested, perfectionism also shows strong theoretical ties to moral behaviour in sport. Considering that perfectionism is a common personality trait among athletes (Flett & Hewitt, 1995; Hardy et al., 1996), new insight may be gained by studying how it relates to moral behaviour in sport. Given that the empirical relationships between motivational climate and moral behaviour are well established, one possible means of expanding the understanding of its influence on moral behaviour, as suggested by the SCTMTA, is by examining the interaction between the motivational climate and personality (Bandura, 1991).

What is in limited evidence, are studies that take gender, environmental, and personality variables simultaneously into account to explain moral functioning among athletes. That is, it is unclear whether the strength and/or direction of the relationships between any one of these three variables and moral behaviour are moderated by levels across one or both of the other two variables (Hayes, 2013). Such studies would seem prudent given that the SCTMTA contends that moral behaviour is produced through an interaction between the environment and personality. Although in line with theory, such studies are rarely conducted (Kavussanu, 2006).

Based on the information presented earlier in this study, athletes' perfectionistic orientation may moderate relationships between the motivational climate that envelops their sport experience and their propsensity towards moral behaviour in sport. Given that unhealthy perfectionistic athletes may be prone to the use of external reference criteria in evaluating their performance (Dunn et al., 2002; Hall et al., 1998), they may also be prone to engage in antisocial behaviour in sport. In comparison, healthy perfectionistic athletes may be prone to the use of self-referenced criteria when evaluating their performance, they may also be prone to engage in prosocial behaviour in sport (Dunn et al., 2002; Hall et al., 1998). The positive relationship between a performance motivational climate and antisocial moral behaviour in sport may be especially strong for unhealthy perfectionistic athletes, but less so for healthy perfectionistic athletes. In contrast, given that healthy perfectionistic athletes may be more prone to prosocial behaviour in comparison to unhealthy perfectionistic athletes, the relationship between a mastery motivational climate and prosocial behaviour in sport may be particularly true for healthy perfectionistic athletes, but less so for unhealthy perfectionistic athletes. Given that male athletes consistently report higher levels of antisocial moral behaviour and lower levels of prosocial moral behaviour in comparison to female athletes (Duda et al., 1991; Kavussanu &

Ntoumanis, 2003; Weiss et al., 2015), it would be logical to expect these differences to also present in relationships that the motivational climate and perfectionism show with moral behaviour in sport.

The Present Study

The purpose of the present study was to examine how three variables—motivational climate, gender, and perfectionism—individually and interactively relate to moral behaviour in sport. Taking into account past theory and research, several sets of hypotheses were proposed. Regarding the relationships between motivational climate and moral behaviour in sport, it was expected that:

1. A mastery motivational climate would be positively related to prosocial moral behaviour and negatively related to antisocial moral behaviour; and,
2. A performance motivational climate would be positively related to antisocial moral behaviour and negatively related to prosocial moral behaviour.

Regarding perfectionistic athletes' propensity towards moral behaviour in sport, it was expected that:

3. Healthy perfectionistic athletes would be more likely to engage in prosocial moral behaviour than antisocial moral behaviour; while unhealthy perfectionistic athletes would be more likely to engage in antisocial moral behaviour than prosocial moral behaviour.

Regarding the relationship between gender and athletes' propensity towards moral behaviour in sport, it was expected that:

4. Male athletes would report more frequent antisocial moral behaviour than female athletes and less frequent prosocial moral behaviour than female athletes.

Regarding the interaction between motivational climate and perfectionistic orientation, it was expected that:

5. A positive relationship between a performance motivational climate and antisocial moral behaviour in sport may be especially strong for athletes with an unhealthy perfectionistic orientation, but less so among athletes with a healthy perfectionistic orientation; while the positive relationship between a mastery motivational climate and prosocial moral behaviour may be especially strong for athletes with a healthy perfectionistic orientation, but less so among athletes with a unhealthy perfectionistic orientation.

Regarding the interaction between motivational climate and gender, it was expected that:

6. The positive relationship between a perceived performance climate and antisocial moral behaviour would be particularly strong for male athletes, but less so for female athletes; while the positive relationship between a perceived mastery climate and prosocial moral behaviour would be particularly strong for female athletes, but less so for male athletes.

Regarding the interaction between gender and perfectionistic orientation, it was expected that:

7. The positive relationship between male athletes and antisocial moral behaviour would be especially strong among athletes with an unhealthy perfectionistic orientation, but less so among male athletes with a healthy perfectionistic orientation; while the positive relationship between female athletes and prosocial moral behaviour would be especially strong among female athletes with a healthy perfectionistic orientation, but less so for female athletes with an unhealthy

perfectionistic orientation.

Method

Targeted Participant and Sample Characteristics

As indicated earlier, increased antisocial moral behaviour is a concern among youth athletes who have extensive experience participating in a contact team-sport at a high level of competition (Kavussanu, 2008; Kavussanu & Ntoumanis, 2003; Silva, 1983). To allow for the potential to address this concern, the present study targeted youth athletes, aged 15 to 19, who competed in high-level competitive basketball. Both male and female athletes were sought out to help counter the predominant focus on male athletes present in the extant research on morality and motivational climate (Kavussanu, 2008), and to allow for a test of whether the proposed relationships differed by gender (Duda et al., 1991; Weiss et al., 2015). The present study sought to recruit at least 180 participants to satisfy power requirements associated with tests for moderation (Hair, Black, Babin, & Anderson, 2010).

Instruments

Demographic questionnaire. The questionnaire was developed by the researcher and included a variety of demographic and background questions which asked participants to indicate their age, gender, ethnicity, team association, and length of involvement in competitive basketball (see Appendix A).

Moral behaviour. Moral behaviour was measured using one of the most frequently used self-report instruments, the *Prosocial and Antisocial Behaviour in Sport Scale (*PABSS; Kavussanu & Boardley, 2009**)**. The PABSS was developed using Bandura's (1991) SCTMTA as a theoretical foundation. Because the present study was also founded on the SCTMTA, and to enhance comparability to past research, the PABSS was adopted in this study.

The PABSS is a self-report instrument used to assess the frequency of engagement in prosocial and antisocial behaviour over the course of a season. The PABSS contains 20 items representing prosocial and antisocial behaviour towards teammates and opponents in sport. The stem of the questionnaire asks respondents to indicate how often they had engaged in each behaviour during the present season; responses are provided on a 5-point scale (1 = *never;* 5 = *very often*). Higher scores on each subscale reflect more frequent acts of prosocial or antisocial behaviour over the course of the season. The 20 items are divided into four subscales: prosocial behaviours toward teammates (n = 4; e.g., "Encouraged a teammate"), prosocial behaviour toward opponents (n = 3; e.g., "Helped an injured opponent"), antisocial behaviours toward teammates (n = 5; e.g., "Verbally abused a teammate"), and antisocial behaviour toward opponents (n = 8; e.g., "Criticized an opponent").

The reliability and validity of all four subscales of the PABSS are supported by empirical evidence (Kavussanu & Boardley, 2009). Among athletes from a variety of medium to high contact sports (e.g., hockey, basketball, rugby, soccer, football and netball), the PABSS has demonstrated acceptable levels of internal consistency (subscale αs > .70), appropriate factor structure, and theoretically meaningful relationships with other constructs (Kavussanu & Boardley, 2009; Kavussanu, Stanger, & Boardley, 2013). In this study, three items were reworded to refer specifically to basketball as opposed to "my sport" (e.g., "Intentionally broke the rules of my sport" was changed to "Intentionally broke the rules in basketball").

Motivational climate. Motivational climate was measured using one of the most widely used self-report instruments, the Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2; Newton, Duda, & Yin, 2000). The PMCSQ-2 is a 33-item questionnaire (see Appendix B) that assesses an individual's perception of the motivational climate that envelops

his or her team. The PMCSQ-2 measures reported perceptions of mastery and performance climates. In the stem of the questionnaire, participants are requested to report the degree to which they agree or disagree with each statement on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). Higher mean scores on each subscale reflect higher perceptions of a mastery or performance climate. The mastery climate subscale comprises 17 items that examine aspects of the motivational climate such as the important role of teammates (e.g., "Each player contributes in some important way"), cooperative learning (e.g., "The players really work together as a team"), and effort and improvement (e.g., "The coach wants athletes to try new skills"). The performance climate subscale comprises 16 items that examine aspects of the motivational climate such as unequal recognition (e.g., "The coach gives most of his or her attention to the stars"), punishment for mistakes (e.g., "Players are punished when they make a mistake"), and intra-team member rivalry (e.g., "Players are encouraged to outplay the other players").

The reliability and validity of the PMCSQ-2 are supported by several studies. Reliability evidence for the PMCSQ-2 is strong with reported alphas of ≥ .86 for both mastery and performance climate subscales (Kavussanu et al., 2006; Newton et al., 2000; Smith, Fry, Ethington, & Li, 2005). Within the context of several team sports (e.g., basketball, soccer, volleyball), the PMCSQ-2 has demonstrated appropriate factor structure and the instrument's subscales have been found to relate to other constructs in theoretically meaningful ways (Newton et al., 2000).

Perfectionism. The construct of perfectionism is to be considered domain-specific (Dunn et al., 2005; Nordin-Bates, Hill, Cummings, Aujla, & Redding, 2014). Individuals who exhibit perfectionist tendencies are seldom perfectionists in all aspects of life (Stoeber & Stoeber, 2009), but are perfectionists in areas that are personally meaningful (Nordin-Bates et al., 2014). As a

result of the domain-specificity of the construct, when attempting to assess athletes' perfectionistic tendencies towards sport, it is most appropriate to use a perfectionism instrument that is contextualized within sport (Dunn et al., 2005; Stoeber, 2011). Therefore, sport-based perfectionism was measured with one of the most frequently used sport-specific perfectionism instruments (Stoeber, Uphill & Hotham, 2009), the *Sport Multidimensional Perfectionism Scale-2* (Sport-MPS-2; Gotwals & Dunn, 2009).

The Sport-MPS-2 is a 42-item self-report instrument used to assess team-sport athletes' perfectionistic tendencies within their primary sport. The instrument is comprised of six subscales. The Personal Standards and Organization subscales capture facets of the perfectionistic strivings dimension. Personal Standards measures the degree to which individuals set high standards for their performance in sport (n = 7; e.g., "It is important to me that I be thoroughly competent in everything I do in my sport"). Organization measures the degree to which individuals engage in extensive planning or routines prior to competition in order to govern their behaviour prior to and throughout competitions (n = 6; e.g., "I follow a routine to get myself into a good mindset going into competition"). The Concern Over Mistakes, Doubts About Actions, Perceived Parental Pressure, and Perceived Coach Pressure subscales capture facets of the perfectionistic concerns dimension. Concern Over Mistakes measures the degree to which individuals are apprehensive about making errors in competition (n = 8; e.g., "If I fail in competition, I feel like a failure as a person"). Doubts About Actions measures the degree to which individuals are unsure about the quality of their preparation for competition (n = 6; e.g., "I rarely feel that my training fully prepares me for competition"). Perceived Parental Pressure measures the degree to which individuals feel pressure from parental expectations and criticism (n = 9; e.g., "In competition, I never feel like I can quite meet my parents' expectations"), and

Perceived Coach Pressure measures the degree to which individuals experience pressure from coaches expectations and criticism (n = 6; e.g., "My coach expects excellence from me at all times: both in training and competition"). In the stem of the questionnaire, participants are requested to report the degree to which they agree or disagree with each statement on a 5-point Likert scale (1 = *strongly disagree;* 5 = *strongly agree*). Higher mean scores on each subscale reflect higher levels of each facet of perfectionism.

From the perspective of achievement goal theory, the Perceived Parental Pressure and Perceived Coach Pressure subscales could be considered to represent aspects of the motivational climate (Dunn et al., 2002). As such, the content assessed by these two subscales may overlap with the content assessed by the PMCSQ-2. This potential overlap is not desirable from an analytical standpoint because it may inhibit the ability to demonstrate the degree to which perfectionism and motivational climate individually and interactively predict moral behaviour in sport. To avoid this potential multicollinearity issue the Perceived Parental Pressure and Perceived Coach pressure subscales were omitted from this study.

The Sport-MPS-2 has demonstrated acceptable levels of internal consistency (i.e., all αs ≥.70; Gotwals, Dunn, Causgrove Dunn, & Gamache, 2010) and appropriate factor structure (Gotwals & Dunn, 2009; Gotwals et al., 2010). The Sport-MPS-2 has been used to measure perfectionism in the context of competitive youth sports (Sapieja et al., 2011) and in a variety of intercollegiate sports, including basketball (Gotwals, 2011).

Instructions and items in the Sport-MPS-2 ask participants to respond to the questions while considering their "primary sport." In this study, items (n = 20) in the instrument were edited to reflect basketball as the specific context of the study (e.g., "It is important to me that I

am thoroughly competent in everything I do in my sport" was changed to "It is important to me that I am thoroughly competent in everything I do in basketball").

Procedure

Data collection occurred at the boys' and girls' Ontario Basketball Association Under 19 Provincial championships. These tournaments generally represent the culmination of each team's 7 to 8 month competitive season. The study began by seeking ethical approval from Lakehead University's Research Ethics Board. Once approval was granted, the Ontario Basketball Association was contacted to ask for permission to contact the coaches of several Division I and II boys' and girls' basketball teams that would be attending the tournaments (see Appendix E). Via a contact at the Ontario Basketball Association, coaches were provided with an information letter that described the study and requested permission to recruit their team members as potential participants (see Appendix F). If coaches agreed, a meeting with the team was arranged at a time during the tournament that was convenient for the team members. These meetings typically occurred before or after games in locker rooms or an isolated hallway at the tournament venue. At these meetings, the researcher first provided the athletes with both verbal and written information (see Appendix G) regarding the purposes and procedures of the study. After hearing this description, athletes who were willing to take part in the study were asked to complete an informed consent form (see Appendix H). Once informed consent was obtained, participants were asked to complete a questionnaire package that included the demographic questionnaire, PABSS, Sport-MPS-2, and PMCSQ-2. The demographic questionnaire was always presented first in this package. To control for presentation order effects, the presentation order of the PABSS, Sport-MPS-2 and the PMCSQ-2 were counterbalanced. Participants were provided with clipboards to ease questionnaire completion. Coaches were not present during questionnaire

completion. In order to foster the anonymity of the participants and the confidentiality of their responses, each participant was assigned a unique identifier.

Data Analysis

Preliminary analyses. Cluster analysis and multiple regression were the primary analytical techniques used in this study. Both cluster analysis and multiple regression analyses are sensitive to the influence of missing data, multicollinerity, and outliers (Hair et al., 2010). As a result, preliminary analyses were conducted to correct for missing data, screen for and evaluate outliers, and evaluate the degree of multicollinearity. Cronbach's alpha was also utilized to estimate the internal consistency of each subscale within each instrument.

Categorization of athletes by perfectionistic orientation. Both general psychology research (Ashby & Bruner, 2005; Parker, 1997; Rice & Merzadeh, 2000) and sport-based perfectionism research (Dunn et al., 2014; Gotwals, 2011; Sapieja et al., 2011) have used cluster analysis to identify groups of participants who show similar profiles across perfectionistic strivings and perfectionistic concerns. The present study used this procedure to identify groups of athletes whose profiles reflected healthy perfectionism, unhealthy perfectionism or non-perfectionism as defined by the tripartite model.

A common two-stage cluster analytic process was adopted to categorize athletes according to their perfectionistic orientation (see Cumming & Duda, 2012; Gotwals, 2011; Rasquinha, Dunn, & Causgrove Dunn, 2014). In the first stage, hierarchical cluster analysis was used to identify potential cluster solutions. This initial analysis was conducted using participants' mean scores from the four Sport-MPS-2 subscales. Potential cluster solutions to carry forward for subsequent analysis were selected by three main criteria: intra-cluster heterogeneity, practicality, and theoretical meaningfulness (Hair et al., 2010). In the second stage, non-

hierarchical (K Means) cluster analysis was used to identify the final cluster solution. As indicated earlier, this subsequent analysis was used to produce a more refined solution that was adopted as a final cluster solution. Means across the four Sport-MPS-2 subscales were calculated for each cluster within each solution retained from the hierarchical cluster analysis. These mean scores were then used as seed points in a non-hierarchical analysis. To facilitate the naming of clusters in this final solution, multivariate analysis of variance (MANOVA) was used to identify inter-cluster differences across the Sport-MPS-2 subscales. This final cluster solution was then used as a categorical variable in subsequent analyses designed to evaluate whether different perfectionistic orientations showed different propensities towards moral behaviour and whether these orientations interacted with gender and motivational climate.

Predicting Moral Behaviour in Sport

The degree to which motivational climate, gender, and perfectionism individually and interactively predicted moral behaviour in sport was investigated. Both analysis of variance (ANOVA) and multiple regression can be used to test for interaction (Chaplin, 2007). ANOVA is best used when predictors are categorical, while regression may be used with any combination of categorical or continuous predictors (Hair et al., 2010). In this study, the predictor variables were both categorical and continuous. More specifically, motivational climate, as represented by the subscales of the PMCSQ-2 was continuous, perfectionism, as represented by perfectionistic orientation from the cluster analysis was categorical, and gender was categorical. As a result, multiple regression was used to evaluate the hypotheses of the present study.

Variable transformation. Each predictor variable was transformed or recoded to make it suitable for hierarchical multiple regression. The mastery climate and performance climate subscales of the PMCSQ-2 were transformed through mean centering. This was accomplished

by subtracting the overall mean from each case's subscale mean as outlined by Hayes (2013). Gender was recoded as a dichotomous variable (0 = male; 1 = female).

Perfectionistic orientation was represented by a categorical variable comprised of three distinct groups, as such, the variable was transformed using two sets of dummy codes with each comprised of two dichotomous variables (Cohen et al., 2003). These codes are presented in Table 1. One of the dichotomous variables in this set compared healthy perfectionists and non-perfectionists; the other variable compared unhealthy perfectionists and non-perfectionists. In Table 1, these variables are labeled DC1 and DC2, respectively. This set of dummy codes does not allow for comparison between healthy and unhealthy perfectionists. Therefore, a second set of dummy codes was used to provide this comparison. In the second set, one of the dichotomous variables compared unhealthy perfectionists and healthy perfectionists; the other variable compared non-perfectionists and healthy perfectionists. In Table 1, these variables are labeled DC3 and DC4, respectively.

Table 1

Dummy Codes Used to Represent Perfectionistic Orientation

	Dummy Codes			
	Set 1		Set 2	
Perfectionistic Orientation	DC1	DC2	DC3	DC4
Non-perfectionists	0	0	0	1
Healthy Perfectionists	1	0	0	0
Unhealthy Perfectionist	0	1	1	0

First-order effects. Part of the purpose of this study was to explore how motivational climate, gender, and perfectionistic orientation individually (i.e., independent from any interaction between the three variables) predicted moral behaviour in sport. Within the terminology of multiple regression, this represents a test of first-order effects (West, Aiken, &

Krull, 1996). That is, these hypotheses focus on the degree to which predictor variables unconditionally relate to a dependent variable (Hayes, 2013). To test for such first-order effects, the three predictor variables were simultaneously entered into regression analyses where one of the PABSS subscales served as the outcome variable. If this regression explained a significant amount of variance in the PABSS subscale at hand, then the regression coefficient for each variable was examined for statistical significance. Significant regression coefficients indicated that the associated variable made a meaningful contribution to the prediction of the outcome variable and, therefore, signified meaningful first-order effects.

Four regression analyses were conducted to test for first-order effects in regards to each PABSS subscale. Table 2 presents a summary of the variables entered in the analyses assessing first-order effects for each PABSS subscale. Four analyses were needed for each PABSS subscale because of the interest in first-order effects involving both the performance climate and mastery climate subscales of the PMCSQ-2 and because perfectionistic orientation was represented by two sets of dummy codes.

In the first analysis for each PABSS subscale, gender, performance climate, and the first set of perfectionistic orientation dummy codes (i.e., DC1 and DC2) were entered as the predictors. The second analysis was identical to the first except that the second set of perfectionistic orientations dummy codes (i.e., DC3 and DC4) were entered as predictors rather than the first set. This second analysis will replicate findings produced in the first analysis in regards to gender, performance climate, and DC4 (see Cohen et al., 2003). The only novel finding that this second analysis will produce pertains to the dummy code that compares healthy and unhealthy perfectionists (i.e., DC3). As a result, findings pertaining to DC3 will be reported in conjunction with those pertaining to the first analysis.

Table 2

Variables Assessing First-order Effects for Each Analysis by Outcome Variable

	Predictor Variables Entered By Analysis			
Outcome Variable	1st Analysis	2nd Analysis	3rd Analysis	4th Analysis
Antisocial Behaviour Toward Opponents	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2
Antisocial Behaviour Toward Teammates	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2
Prosocial Behaviour Toward Opponents	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2
Prosocial Behaviour Toward Teammates	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2

In the third analysis, gender, mastery climate, and the first set of perfectionistic orientation dummy codes (i.e., DC1 and DC2) were entered as the predictors with each PABSS subscale entered as the dependent variable. The fourth analysis, was identical to the third except that the second set of perfectionistic orientations dummy codes (i.e., DC3 and DC4) were entered as predictors rather than the first set. This fourth analysis will replicate findings produced in the third analysis in regards gender, mastery climate, and DC4 (see Cohen et al., 2003). The only novel finding that this fourth analysis will produce pertains to the dummy code that compares healthy and unhealthy perfectionists (i.e., DC3). As a result, findings pertaining to DC3 will be reported in conjunction with those pertaining to the third analysis.

Interaction effects. This study also explored whether motivational climate, gender, and perfectionistic orientation interact to predict moral behaviour in sport. In other words, the study explored whether moral behaviour in sport was conditional upon levels across one or both of the other predictor variables (Hayes, 2013). These interaction effects were tested through a hierarchical regression process outlined by Chaplin (2007). The same process was followed in the prediction of each PABSS subscale. The first step in this process replicated the analyses conducted to test for first-order effects. That is, in this first step, motivational climate (represented by either the mastery or performance climate subscale of the PMCSQ-2), gender, and perfectionistic orientation were entered into the analysis.

In the second step, product terms involving two of the three predictor variables were entered into the analysis. These product terms were computed by multiplying perfectionst orientation by gender, gender by PMCSQ-2 subscales, and perfectionistic orientation by PMCSQ-2 subscales. If so, the analysis detected an interaction between the two variables represented in the product term. If the interaction involved two categorical variables (e.g., gender

and perfectionism), the interaction was probed using a 2 (gender) × 3 (perfectionism) factorial ANOVA. Post-hoc pairwise comparisons with least squared differences were used to determine the significance of between group differences in the type of moral behaviour at hand. If the interaction involved a categorical variable (e.g., perfectionistic orientation) and a continuous variable (e.g., motivational climate), the pick-a-point approach outlined by Hayes (2013) was used to probe the interaction. Specifically, values of the motivational climate at hand (either mastery or performance), one standard deviation above and below the mean were used to test the conditional effect of the categorical variable on the outcome variable.

Results

Participants

Participants were 255 competitive youth basketball players (male = 132, female = 123; M_{age} = 17.44, *SD* = 1.03) from 26 of the 32 teams that took part in the Division I and Division II Ontario Cup Tournaments. These divisions represent the highest levels of competition at the tournaments. Of the six teams that are not represented in the sample, two declined to participate and four were not asked to participate due to scheduling conflicts. Of the athletes who were presented with the option of participating in the study, approximately 10 opted out. Players reported beginning to play competitive basketball at an average of 11 years old (*SD* = 3.07), having played for the same team for an average of 3.46 years (*SD* = 2.88), and spending an average of 10.38 hours per week (*SD* = 9.03) playing basketball throughout the past season. Ethnicities represented in the sample included Caucasians (48%), Black/African Canadians (28%), or Mixed Ethnicities (12%).

Preliminary Analyses

Missing data. Where cases had one or two missing items in a subscale, mean substitution was used to replace missing values. Twenty cases missed items in the demographic questionnaire (e.g., age, hours played, ethnicity, team). These cells were left empty. Sixteen participants had non-random patterns of missing data (e.g., missed an entire page of a questionnaire) and therefore were excluded from the study. All subsequent analyses are based on data provided by the remaining 239 participants (male = 122; female = 117).

Univariate and multivariate outliers. Sport-MPS-2, PABSS, and PMCSQ-2 subscale mean scores were calculated by averaging item responses from each subscale. Prior to conducting further analyses, data was screened for univariate and multivariate outliers following the process outlined by Tabachnick and Fidell (2007). To detect potential univariate outliers, means from each Sport-MPS-2, PABSS, and PMCSQ-2 subscale were converted to *z*-scores. Individual cases with *z*-scores greater than ± 3.29 on a subscale were classified as univariate outliers. There were six cases that met this criterion. The univariate outliers were detected on the ASO, AST, and PST subscales of the PABSS, and on the MC subscale of the PMCSQ-2.

To detect potential multivariate outliers, Mahalanobis D^2 values were calculated for each subscale and converted to probability scores. To be classified as a multivariate outlier, the probability of the Mahalanobis D^2 value obtained had to be less than .001 (Hair et al., 2010; Tabachnick & Fidell, 2007). This process identified one potential multivariate outlier. Regression analyses were conducted with and without the cases identified as univariate and multivariate outliers to investigate their impact on the results. Given that there were no meaningful differences between the results of the two analyses, all potential outliers were retained for the subsequent analyses.

Data was screened to identify values of skewness and kurtosis for every Sport-MPS-2, PABSS, and PMCSQ-2 subscale. Table 1 presents the means, standard deviations and values for skewness and kurtosis for each Sport-MPS-2, PABSS, and PMCSQ-2 subscale. According to Tabachnick & Fidell (2007), values less than 1.96 represent acceptable levels of skewness and kurtosis. Only the mastery climate subscale from the PMCSQ-2 exceeded the recommended cut-off. Hair et al. (2010) suggest that non-normality may have little impact on subsequent analyses when the sample size is greater than 200. In the present study the sample size was 239. As a result, the non-normality of the mastery climate distribution was expected to have an insignificant impact on subsequent analyses.

Table 3

Sport-MPS-2, PABSS, and PMCSQ-2 Descriptive Statistics

Subscale	*M*	*SD*	Skewness	Kurtosis
Sport-MPS-2$_a$				
Personal Standards	3.75	.59	-.07	-.42
Organization	3.25	.83	-.25	-.10
Concern Over Mistakes	2.99	.83	.16	-.29
Doubts About Actions	2.71	.68	.11	.13
PABSS$_b$				
Antisocial Behaviour Toward Opponents	2.24	.75	.90	.45
Antisocial Behaviour Toward Teammates	1.99	.75	1.01	.95
Prosocial Behaviour Toward Opponents	2.98	.94	-.16	-.52
Prosocial Behaviour Toward Teammates	4.30	.53	-.96	1.57
PMCSQ-2$_a$				
Mastery Climate	4.18	.61	-1.21	2.49
Performance Climate	2.88	.76	.37	-.172

Note. Subscript denotes different ranges of response values: $_a$1 = strongly disagree; 5 = strongly agree; or $_b$1 = never; 5 = very often.

Table 4

Sport-MPS-2, PABSS, and PMCSQ-2 Internal Consistency Estimates (α), and Bivariate Correlations (r).

	Sport-MPS-2				*PABSS*				*PMCSQ-2*	
Subscale	PS	ORG	COM	DAA	ASO	AST	PSO	PST	MC	PC
Sport-MPS-2										
PS	$\alpha = .74$									
ORG	.47**	$\alpha = .88$								
COM	.28**	.22**	$\alpha = .84$							
DAA	.03	-.001	.54**	$\alpha = .74$						
PABSS										
ASO	.18**	.20**	.23**	.22**	$\alpha = .83$					
AST	.14*	.11	.16*	.21**	.63**	$\alpha = .82$				
PSO	-.04	.12	.16*	.15*	-.01	.06	$\alpha = .73$			
PST	.26**	.18**	.06	.03	.12	.07	.19**	$\alpha = .65$		
PMCSQ-2										
MC	.10	.19**	-.17**	-.29**	-.11	-.20**	-.01	.19**	$\alpha = .92$	
PC	.20**	.16*	.45**	.40**	.29**	.33**	.11	.16*	-.39**	$\alpha = .92$

Note. $N = 239$. Subscale abbreviations: PS = Personal Standards; ORG = Organization; COM = Concern Over Mistakes; DAA = Doubts About Actions; ASO = Antisocial Behaviour Toward Opponents; AST = Antisocial Behaviour Toward Teammates; PSO = Prosocial Behaviour Toward Opponents; PST = Prosocial Behaviour Toward Teammates; MC = Mastery Climate; and PC = Performance Climate.
* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

Internal consistency estimates and bivariate correlations. The internal consistency of each Sport-MPS-2, PABSS, and PMCSQ-2 subscale was estimated using Cronbach's alpha (see the main diagonal in Table 4). Alpha's from the four Sport-MPS-2 subscales, Personal Standards, three of the four PABSS subscales, and both PMCSQ-2 subscales ranged from .73 to .92, indicating acceptable levels of reliability. However, one PABSS subscale, Prosocial Behaviour Toward Teammates did have an alpha slightly lower ($\alpha = .65$) than the generally accepted standard of .70 (Nunnally & Bernstein, 1994). Further analyses revealed that the internal consistency estimates for that subscale could not be substantially improved by the deletion of any particular item. Given that the purpose of the study was to examine moral behaviour in sport, the Prosocial Behaviour Toward Teammates subscale of the PABSS was retained and used in subsequent analyses. However, findings related to this subscale should be viewed with caution.

Table three also presents bivariate correlations between the Sport-MPS-2, PABSS, and PMCSQ-2 subscales. The correlations between the subscales of the Sport-MPS-2 and the PMCSQ-2 are of greatest interest. This is because multicollinearity among predictors in a regression equation can distort the results and impact the generalizability of those results (Hair et al., 2010). Examining the variance inflation factor (VIF) values between predictors is one means of testing for multicollinearity (Hair et al., 2010). Hair et al. (2010) suggest that VIF values greater than 10 indicate variables that have a high level of multicollinearity. Among the Sport-MPS-2 and PMCSQ-2 subscales, VIF values ranged from 1.16 to 1.62.

Another suggested means of testing for multicollinearity is by examining the strength of the bivariate correlations between predictors. According to Cohen (1988) the strength of correlations are defined such that *r* values of ± .10 to ± .29 are small correlations, *r* values of ± .30 to ± .49 are medium (moderate) correlations, and *r* values of ± .50 to ± 1.00 are large

correlations. Significant correlations between the Sport-MPS-2 subscales and PMCSQ-2 subscales showed that perception of a mastery climate had a small positive correlation with Organization (r = .19), and had small negative correlations with Concern Over Mistakes (r = -.17) and Doubts About Actions (r = -.29). Perception of a performance climate demonstrated small positive correlations with Personal Standards (r = .20) and Organization (r = .16) and moderate correlations with Concern Over Mistakes (r = .45) and Doubts About Actions (r = .40). None of these correlations would be described as "large" according to Cohen's criteria. This in combination with the VIF analyses reported previously, suggests that multicollinearity among the PMCSQ-2 and Sport-MPS-2 subscales should not detrimentally influence the results of subsequent analyses.

Categorization of Athletes by Perfectionistic Orientation

Hierarchical cluster analysis. The first stage of the cluster analysis procedure involved a hierarchical cluster analysis in which the mean scores from each Sport-MPS-2 subscale (Personal Standards, Organization, Concern Over Mistakes, and Doubts About Actions) were entered into the analysis using Ward's method of cluster formation and squared Euclidean distance measures. Hierarchical cluster analysis produces almost as many cluster solutions as there are participants in the sample. Three main criteria– intra-cluster heterogeneity, practicality, and theoretical meaningfulness– were used to determine which cluster solutions to carry forward to the next stage of analysis (Hair et al., 2010).

Intra-cluster heterogeneity can be illustrated by the agglomeration schedule (see Table 5). This table presents cluster solutions that include from one to 10 clusters, their agglomeration coefficients, and the differences between coefficients from the subsequent stages. Potential cluster solutions to carry forward were determined using a "stopping rule" suggested by Hair et

al. (2010) whereby those that have relatively large increases in heterogeneity when moving to the next cluster solution are retained for further investigation.

Table 5

Agglomeration Schedule from Hierarchical Cluster Analysis

Stage	Coefficient	Number of Clusters	Difference Between Subsequent Coefficient	Percent Increase in Heterogeneity in Next Stage (%)
229	174.566	10	11.349	6.50
230	185.915	9	13.093	7.04
231	199.008	8	14.244	7.16
232	213.252	7	14.474	6.79
233	227.726	6	23.225	10.20
234	250.951	5	25.83	10.29
235	276.781	4	30.514	11.02
236	307.295	3	79.836	25.98
237	387.131	2	131.554	33.98
238	518.685	1		

Relatively large increases in heterogeneity occurred when moving from six to five clusters, three to two clusters, and two to one cluster as shown by the percent increase in heterogeneity in next stage in Table 3. The largest change in heterogeneity occurred when moving from a two and to a one-cluster solution. According to Hair et al. (2010), this is expected given that heterogeneity of clusters increases with each combination, cluster analysis tends to indicate a smaller number of clusters, and at this stage cluster solutions usually show a large increase in heterogeneity (Hair et al., 2010). It is also suggested that two-cluster solutions be supported by a strong theoretical foundation. As a result, the two-cluster solution was removed from consideration.

This left the six-cluster solution and the three-cluster solution to be considered on the grounds of theoretical meaningfulness and practicality. Based on the aforementioned existing

models of perfectionism, the six-cluster solution did not have theoretical meaningfulness. However, the three-cluster had the potential to reflect characteristics of the Tripartite Model of Perfectionism (Stoeber & Otto, 2006). Means from the Sport-MPS-2 subscales for the potential three-cluster solution were examined while considering the facets of perfectionism represented in the instrument in relation to perfectionistic strivings and perfectionistic concerns. The three-cluster solution fit well theoretically with the Tripartite Model of Perfectionism.

Finally, on the grounds of practicality, the three-cluster solution produced three fairly equal sized clusters of 76, 87, and 76 cases. Given that clusters were comprised of a relatively equal number of cases, and that clusters with a low number of cases are considered of little use (Gotwals, in press), the three-cluster solution met the criteria of practicality. Based on the three criteria used to evaluate the cluster solutions, the three-cluster solution produced clusters with acceptable intra-cluster heterogeneity, theoretical meaningfulness due to its fit with the Tripartite Model, and practicality given the relatively equally sized clusters. Therefore, the three-cluster solution was the most appropriate solution to carry forward to the next stage of analysis.

The second stage of the cluster analysis procedure involved a non-hierarchical (K Means) cluster analysis that fine-tuned the three-cluster solution carried forward from the hierarchical cluster analysis. Cluster means from the hierarchical solution (i.e., the means from each Sport-MPS-2 subscale) were entered as seed points in this analysis (Hair et al., 2010). The cluster solution produced from this analysis is presented in Table 6. Comparison of this cluster solution to that produced in the hierarchical analysis showed that the number of cases in Cluster 1 (n = 76) remained the same, whereas the number of cases in Cluster 2 decreased from 87 to 71, and the number of cases in Cluster 3 increased from 76 to 92.

Labels for each cluster were determined by considering the pattern of inter-cluster differences across the means of the Sport-MPS-2 subscales in relation to differences between the perfectionistic orientations identified in the tripartite model. These differences are presented in Table 6. Multivariate analysis of variance (MANOVA) was conducted to identify inter-cluster differences. This analysis produced a significant multivariate test statistic (Wilks's $\Lambda = .01$, $F_{(4, 233)} = 5946.61$, $p < .001$, partial $\eta^2 = .99$). Subsequent univariate F tests indicated significant differences within each subscale (see Table 6, all ps < .05). Post hoc tests were then conducted to identify which specific clusters differed within each subscale.

Table 6

Means Across the Sport-MPS-2 Subscales for the Three Cluster Solution

	Cluster 1		Cluster 2		Cluster 3			
	Non-perfectionists *(n = 76)*		Healthy Perfectionists *(n = 71)*		Unhealthy Perfectionists *(n = 92)*		Univariate test statistics	
Sport-MPS-2 Subscale	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F* (2, 237)	Partial η^2
PS	3.35_b	.51	4.02_a	.52	3.86_a	.52	34.49	.226
ORG	2.46_c	.60	3.94_a	.53	3.37_b	.62	119.82	.504
COM	2.38_c	.57	2.70_b	.61	3.71_a	.57	121.06	.506
DAA	2.46_b	.64	2.30_b	.49	3.22_a	.49	69.00	.369

Note. Within each row, subscale means with the subscript "a" are significantly higher than means with the subscripts "b" and "c"; subscale means with the subscript "b" are significantly higher than means with the subscripts "c" (as determined through independent t-tests with Bonferroni corrections [all ps < .05]).

The three clusters differed in relation to their scores on the Personal Standards and Organization subscales. Clusters two and three had higher levels of Personal Standards than Cluster 1. While all three clusters differed in relation to their levels of Organization, both clusters two and three reported higher levels of Organization than Cluster 1, with Cluster 2 reporting the highest levels of the three clusters. While Cluster 3 reported the highest Concern Over Mistakes,

both Clusters 2 and 3 reported higher levels of Concern Over Mistakes than Cluster 1. Cluster 3 also reported the highest levels of Doubts About Actions, while Clusters one and two reported lower levels of Doubts About Actions.

According to the Tripartite Model of perfectionism, both healthy perfectionists and unhealthy perfectionists exhibit high levels of perfectionistic strivings, when compared to non-perfectionists. In line with the Tripartite Model, in the present study the three clusters differed in relation to their scores on the Personal Standards and Organization subscales, both facets of perfectionistic strivings. The Tripartite Model of Perfectionism also suggests that healthy and non-perfectionists exhibit lower levels of perfectionistic concerns than unhealthy perfectionists. Consistent with the Tripartite Model, in the present study the three clusters also differed in relation to their scores on the Concern Over Mistakes and Doubts About Actions subscales, both facets of perfectionistic concerns. As a result of these differences, Cluster 1 was labeled *non-perfectionists*; Cluster 2 was labeled *healthy perfectionists*; finally, Cluster 3 was labeled *unhealthy perfectionists*.

Predicting Moral Behaviour in Sport: First-Order and Interaction Effects

As described in Data Analysis and presented in Table 2, sets of four analyses were conducted to explore the degree to which motivational climate, gender, and perfectionistic orientation unconditionally predicted each type of moral behaviour in sport (i.e., first-order effects). Within these sets, the first analysis was replicated in the second, and the third analysis was replicated in the fourth, except in regards to the dummy code that contrasted healthy and unhealthy perfectionists (i.e., DC3). To avoid unnecessary repetition, results from the second and fourth analyses that pertain to DC3 are reported alongside results from the first and third analyses (respectively). Subsequent analyses examined if any first-order effects were conditional

upon two-way interactions between the predictors. The results of these analyses in relation to each type of moral behaviour are presented in the following sections. In all analyses, the PABSS subscale representing the type moral behaviour at hand was entered as the outcome variable.

Antisocial behaviour toward opponents. Performance climate, gender, and perfectionistic orientation were entered as the predictors in the first and second analyses testing for first-order effects in the prediction of antisocial behaviour toward opponents. The resulting regression model explained a significant amount of variance in the outcome variable (R^2 = .142; $F_{[4, 234]} = 9.71$, $p < .001$). The beta coefficients respectively associated with performance climate, gender, and DC3 were significant (see Table 7), signifying that these variables were associated with first-order effects. Stronger perceptions of a performance climate were associated with higher rates of antisocial behaviour towards opponents. Male and female basketball players differed in their proclivity towards antisocial behaviour toward opponents whereby males reported more frequent antisocial behaviour toward opponents than females. When compared with healthy perfectionists, unhealthy perfectionists reported more frequent antisocial behaviour toward opponents.

Table 7

Predicting Antisocial Behaviour Toward Opponents: First and Second Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	*β*	*t*	*p value*
Gender	-.351	.097	-.235	-3.620	.000
Perfectionistic Orientation					
DC1	-.061	.120	-.037	-.511	.610
DC2	.169	.118	.110	1.429	.154
DC3	.230	.114	.149	2.006	.046
Performance Climate	.176	.067	.179	2.606	.010

Note. Outcome variable: Antisocial Behaviour Toward Opponents PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy

perfectionists to healthy perfectionists.

No significant interactions were found between gender and performance climate or between perfectionistic orientation and performance climate. An examination of the proportion of variance explained in the second step of the model indicated a significant interaction between perfectionism and gender ($\Delta R^2 = .027$; $F_{[2, 232]} = 3.804$, $p < .05$). Figure 2 illustrates this interaction. Subsequent probing revealed no significant differences between the perfectionistic orientations among females. However, significant differences were revealed between perfectionistic orientations among males ($F_{(2, 233)} = 8.73$, $p < .001$; partial $\eta^2 = .07$). Pairwise comparisons indicated that among males, unhealthy perfectionists reported more frequent antisocial behaviour toward opponents than both healthy perfectionists ($p = .001$) and non-perfectionists ($p < .001$). Healthy perfectionists and non-perfectionists did not differ in their reported propensity to antisocial behaviour toward opponents.

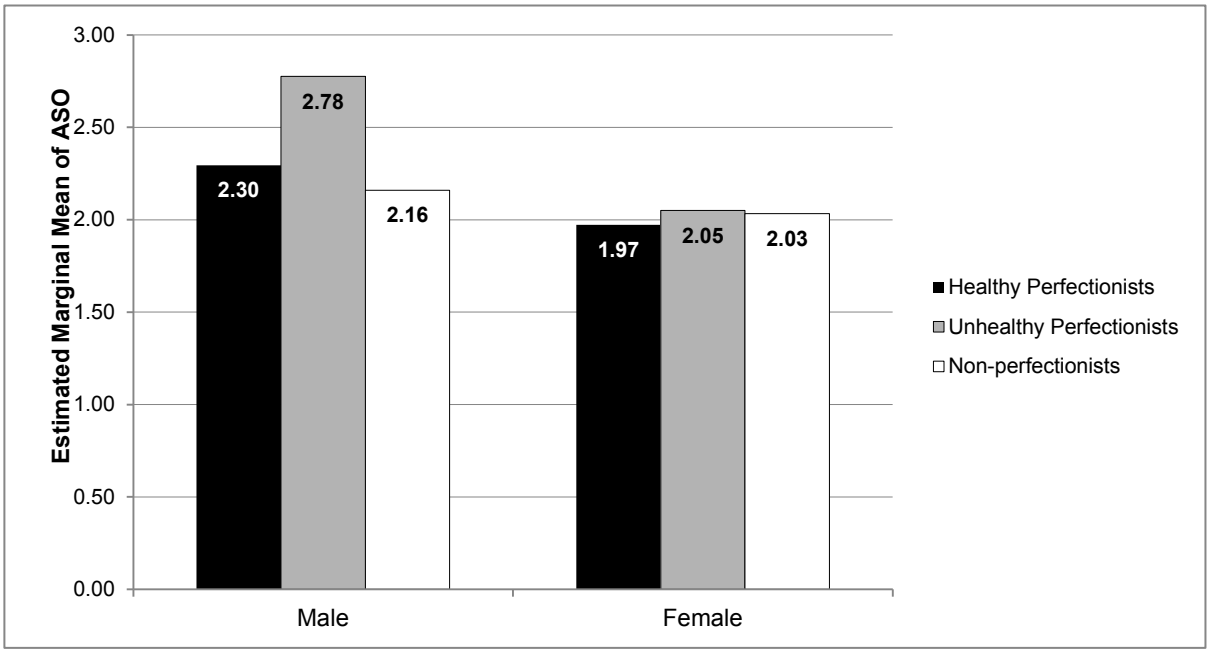

Figure 2. Mean scores across Antisocial Behaviour Toward Opponents (ASO) between groups defined by perfectionistic orientation and gender.

Mastery climate, gender, and perfectionistic orientation were entered as the predictors in the third and fourth analyses testing for first-order effects in the prediction of antisocial

behaviour toward opponents. The resulting regression model explained a significant amount of variance in the outcome variable (R^2 = .117; $F_{[4, 234]}$ = 7.79, p < .001). The beta coefficients respectively associated with gender, DC2 and DC3 were significant (see Table 8), signifying that these variables were associated with first-order effects. Males reported more frequent antisocial behaviour towards opponents than females. When compared to healthy perfectionists and non-perfectionists, unhealthy perfectionists were associated with higher levels of antisocial behaviour toward opponents.

Table 8

Predicting Antisocial Behaviour Toward Opponents: Third and Fourth Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	β	*t*	*p value*
Gender	-.423	.098	-.283	-4.335	.000
Perfectionistic Orientation					
DC1	-.017	.121	-.010	-.138	.890
DC2	.176	.067	.179	2.606	.010
DC3	.300	.116	.195	2.582	.010
Mastery Climate	-.004	.080	-.003	-.045	.964

Note. Outcome variable: Antisocial Behaviour Toward Opponents PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy perfectionists to healthy perfectionists.

No significant interactions were found between gender and mastery climate, and perfectionism and mastery climate. However, a significant interaction was indicated between perfectionism and gender (ΔR^2 = .029; $F_{[2, 232]}$ = 3.882, p < .05). This interaction was presented in Figure 2 and interpreted earlier.

Antisocial behaviour toward teammates. Performance climate, gender, and perfectionistic orientation were entered as the predictors in the first and second analyses testing for first-order effects in the prediction of antisocial behaviour toward teammates. The resulting

regression model explained a significant amount of variance in the outcome variable (R^2 = .205; $F_{[4, 234]}$ = 15.10, p < .001). The beta coefficients respectively associated with performance climate, gender, and DC3 were significant (see Table 9), signifying that these variables were associated with first-order effects. Stronger perceptions of a performance climate were associated with higher levels of antisocial behaviour toward teammates. Male and female basketball players differed in their tendencies to engage in antisocial behaviour towards teammates whereby males reported more frequent antisocial behaviour towards teammates than females. When compared with healthy perfectionists, unhealthy perfectionists reported more frequent antisocial behaviour toward teammates.

Table 9

Predicting Antisocial Behaviour Toward Teammates: First and Second Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	*β*	*t*	*p value*
Gender	-.478	.094	-.317	-5.079	.000
Perfectionistic Orientation					
DC1	-.038	.116	-.023	-.326	.745
DC2	.187	.114	.121	1.632	.104
DC3	.225	.111	.145	2.022	.044
Performance Climate	.186	.065	.188	2.841	.005

Note. Outcome variable: Antisocial Behaviour Toward Teammates PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy perfectionists to healthy perfectionists.

No significant interactions were evident between gender and performance climate or between perfectionistic orientation and performance climate. An examination of the proportion of variance explained in the second step of the model indicated a significant interaction between perfectionism and gender (ΔR^2 = .044; $F_{[2, 232]}$ = 6.72, p = .001). Figure 3 illustrates this interaction. Subsequent probing revealed no significant differences between the perfectionistic

orientations among females. However, significant differences were revealed between perfectionistic orientations among males ($F_{(2, 233)} = 12.41$, $p < .001$; partial $\eta^2 = .10$). Pairwise comparisons found that among males, unhealthy perfectionists reported more frequent antisocial behaviour toward teammates than both healthy perfectionists ($p < .001$) and non-perfectionists ($p < .001$). Healthy perfectionists and non-perfectionists did not differ in their reported antisocial behaviour toward teammates.

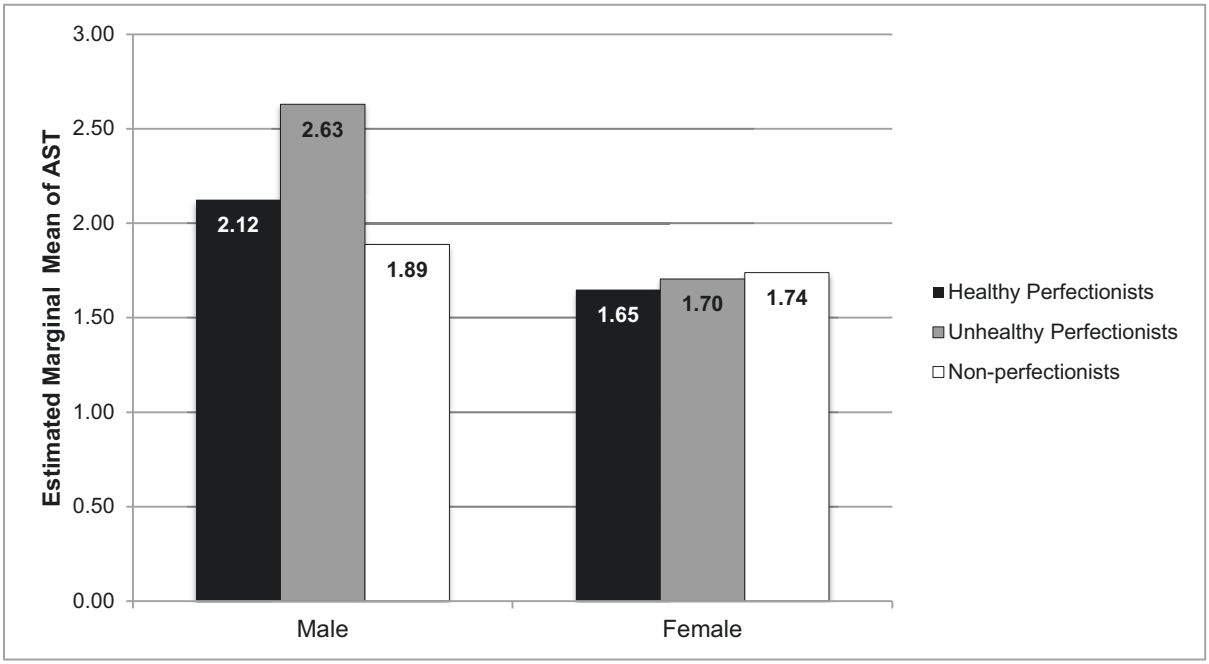

Figure 3. Mean scores across Antisocial Behaviour Toward Teammates (AST) between groups defined by perfectionistic orientation and gender.

Mastery climate, gender, and perfectionistic orientation were entered as the predictors in the third and fourth analyses testing for first-order effects in the prediction of antisocial behaviour toward teammates. The resulting regression model explained a significant amount of variance in the outcome variable ($R^2 = .184$; $F_{[4, 234]} = 13.15$, $p < .001$). The beta coefficients respectively associated with gender, DC2 and DC3 were significant (see Table 10), signifying that these variables were associated with first-order effects. Males reported more frequent

antisocial behaviour towards teammates than females. When compared to healthy perfectionists and non-perfectionists, unhealthy perfectionists were associated with increased levels of antisocial behaviour toward teammates.

Table 10

Predicting Antisocial Behaviour Toward Teammates: Third and Fourth Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	*β*	*t*	*p value*
Gender	-.423	.098	-.283	-4.335	.000
Perfectionistic Orientation					
DC1	-.017	.121	-.010	-.138	.890
DC2	.176	.067	.179	2.606	.010
DC3	.300	.116	.195	2.582	.010
Mastery Climate	-.004	.080	-.003	-.045	.964

Note. Outcome variable: Antisocial Behaviour Toward Teammates PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy perfectionists to healthy perfectionists.

No significant interactions were found between gender and mastery climate, and perfectionism and mastery climate. However, a significant interaction was indicated between perfectionism and gender ($\Delta R^2 = .044$; $F_{[2, 232]} = 6.72$, $p = .001$).This interaction was presented in Figure 3 and interpreted earlier.

Prosocial behaviour toward opponents. Performance climate, gender, and perfectionistic orientation were entered as the predictors in the first and second analyses testing for first-order effects in the prediction of prosocial behaviour toward opponents. The resulting regression model explained a significant amount of variance in the outcome variable ($R^2 = .159$; $F_{[4, 234]} = 11.02$, $p < .001$). The beta coefficients respectively associated with performance climate, gender, and DC1 were significant (see Table 11), signifying that these variables were associated with first-order effects. Stronger perceptions of a performance climate were associated

with higher rates of prosocial behaviour towards opponents. Male and female basketball players differed in their tendencies to engage in prosocial behaviour towards opponents whereby males reported less frequent prosocial behaviour towards opponents than females. When compared to non-perfectionists, healthy perfectionists were associated with higher levels of prosocial behaviour toward opponents. Healthy and unhealthy perfectionists did not differ in their reported prosocial behaviour toward opponents.

Table 11

Predicting Prosocial Behaviour Toward Opponents: First and Second Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	*β*	*t*	*p value*
Gender	.742	.120	.397	6.178	.000
Perfectionistic Orientation					
DC1	.338	.148	.165	2.281	.023
DC2	.231	.146	.120	1.580	.116
DC3	-.107	.142	-.056	-.754	.452
Performance Climate	.235	.084	.192	2.817	.005

Note. Outcome variable: Prosocial Behaviour Toward Opponents PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy perfectionists to healthy perfectionists.

No significant interactions were evident between perfectionism and gender, gender and performance climate, or perfectionism and performance climate.

Mastery climate, gender, and perfectionistic orientation were entered as the predictors in the third and fourth analyses testing for first-order effects in the prediction of prosocial behaviour toward opponents. The resulting regression model explained a significant amount of variance in the outcome variable ($R^2 = .137$; $F_{[4, 234]} = 9.31$, $p < .001$). The beta coefficients respectively associated with gender, DC1 and DC2 were significant (see Table 12), signifying that these variables were associated with first-order effects. Male and female basketball players differed in

their tendencies to engage in prosocial behaviour toward opponents whereby males reported less frequent prosocial behaviour towards opponents than females. When compared to non-perfectionists, both healthy and unhealthy perfectionists were associated with increased levels of prosocial behaviour toward opponents. Healthy and unhealthy perfectionists did not differ in their reported prosocial behaviour toward opponents.

Table 12

Predicting Prosocial Behaviour Toward Opponents: Third and Fourth Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	*β*	*t*	*p value*
Gender	.689	.121	.368	5.708	.000
Perfectionistic Orientation					
DC1	.424	.150	.207	2.832	.005
DC2	.365	.138	.190	2.644	.009
DC3	-.059	.144	-.031	-.414	.679
Mastery Climate	-.139	.099	-.091	-1.410	.160

Note. Outcome variable: Prosocial Behaviour Toward Opponents PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy perfectionists to healthy perfectionists.

No significant interactions were evident between perfectionism and gender, gender and performance climate, or perfectionism and mastery climate.

Prosocial behaviour toward teammates. Performance climate, gender, and perfectionistic orientation were entered as the predictors in the first and second analyses testing for first-order effects in the prediction of prosocial behaviour toward teammates. The resulting regression model explained a significant amount of variance in the outcome variable (R^2 = .245; $F_{[4, 234]} = 3.75$, $p < .01$). The beta coefficients respectively associated with performance climate and gender were significant (see Table 13), signifying that these variables were associated with first-order effects. Stronger perceptions of a performance climate were associated with increased

levels of prosocial behaviour toward teammates. Male basketball players reported less frequent prosocial behaviour toward teammates than female basketball players.

Table 13

Predicting Prosocial Behaviour Toward Teammates: First and Second Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	*β*	*t*	*p value*
Gender	.157	.072	.149	2.194	.029
Perfectionistic Orientation					
DC1	.157	.088	.135	1.771	.078
DC2	-.025	.087	-.023	-.288	.774
DC3	-.107	.142	-.056	-.754	.452
Performance Climate	.151	.050	.218	3.023	.003

Note. Outcome variable: Prosocial Behaviour Toward Teammates PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy perfectionists to healthy perfectionists.

No significant interactions were found between gender and performance climate or between perfectionistic orientation and performance climate. An examination of the proportion of variance explained in the second step of the model indicated a significant interaction between perfectionism and gender ($\Delta R^2 = .029$; $F_{[2, 232]} = 3.63$, $p < .05$). Figure 4 illustrates this interaction. Subsequent probing revealed no significant differences between the perfectionistic orientations among males. However, significant differences were revealed between perfectionistic orientations among females ($F_{(2, 233)} = 5.15$, $p < .05$; partial $\eta^2 = .04$). Pairwise comparisons indicated that among females, healthy perfectionists and unhealthy perfectionists reported more frequent prosocial behaviour toward teammates than non-perfectionists ($p < .05$), with healthy perfectionists reporting the highest levels of prosocial behaviour toward teammates.

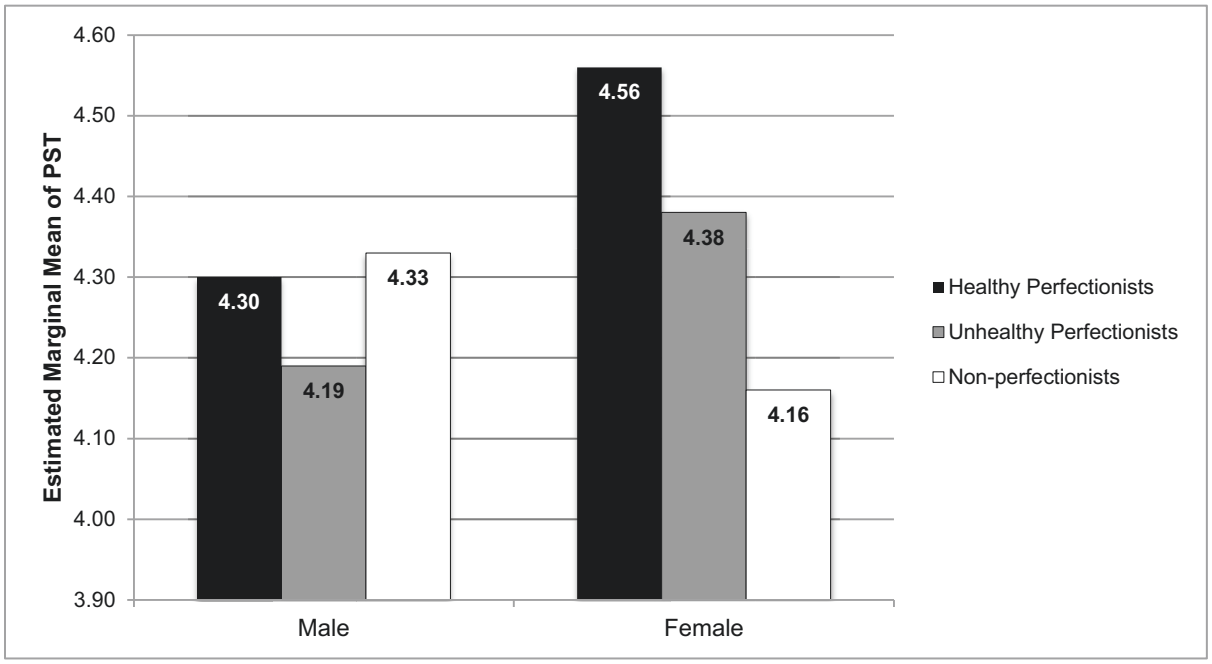

Figure 4. Mean scores across Prosocial Behaviour Toward Teammates (PST) between groups defined by perfectionistic orientation and gender.

Mastery climate, gender, and perfectionistic orientation were entered as the predictors in the third and fourth analyses testing for first-order effects in the prediction of prosocial behaviour toward teammates. The resulting regression model explained a significant amount of variance in the outcome variable ($R^2 = .221$; $F_{[4, 234]} = 3.02$, $p < .05$). The beta coefficient associated with mastery climate was significant (see Table 14), signifying that this variable was associated with a first-order effect. Stronger perceptions of a mastery climate were associated with higher levels of prosocial behaviour toward teammates.

Table 14

Predicting Prosocial Behaviour Toward Teammates: Third and Fourth Analyses

	Unstandardized Coefficients		Standardized Coefficients		
Predictor Variables	B	Std. Error	*β*	*t*	*p value*
Gender	.047	.072	.045	.659	.510
Perfectionistic Orientation					
DC1	.165	.089	.142	1.852	.065
DC2	.095	.082	.087	1.160	.247
DC3	-.070	.085	-.064	-.818	.414
Mastery Climate	.147	.059	.169	2.507	.013

Note. Outcome variable: Prosocial Behaviour Toward Teammates PABSS subscale. Gender: males = 0, females = 1. DC1 compares healthy perfectionists to non-perfectionists; DC2 compares unhealthy perfectionists to non-perfectionists; and DC3 compares unhealthy perfectionists to healthy perfectionists.

No significant interactions were found between gender and mastery climate, and perfectionism and mastery climate. However, a significant interaction was indicated between perfectionism and gender ($\Delta R^2 = .029$; $F_{[2, 232]} = 3.58$, $p < .05$). This interaction was presented in Figure 4 and interpreted earlier.

Discussion

Although participants do not always consciously engage in sport to learn, sport is touted as a venue in which to learn appropriate moral behaviour and societal norms (Gano-Overway, Guivernau, Magyar, Waldron, & Ewing, 2005; Rutten et al., 2007; Shields & Bredemeier, 2007). Given that 60 percent of Canadian youth engage in organized sport and the general perception that sport participation will positively impact their moral behaviour, this study sought to examine how three variables – motivational climate, gender, and perfectionism – individually and interactively related to athletes' moral behaviour in sport. The study extended previous research in several ways. First given that empirical evidence between motivational climate and moral behaviour is fairly well established, this study extended previous research by corroborating

previously reported findings from other sports by exploring youth basketball. Second, this study has extended previous literature by being the first to examine the relationship between perfectionistic orientation and moral behaviour in sport. Lastly, since the SCTMTA posits that both individual and environmental influences serve to influence moral behaviour this study adds to the literature by examining the interactions between the environment, in the form of the motivational climate, and individual characteristics, in the form of gender and perfectionistic orientation. Hypotheses were offered for each individual and interactive relationship. In the following sections, results pertaining to each hypothesis are summarized and discussed.

Motivational Climate and Moral Behaviour

Performance climate. Based on empirical evidence from previous research (Boixadós et al., 2004; Kavussanu, 2006; Kavussanu et al., 2006; Kavussanu & Spray, 2006) it was hypothesized that a performance climate would be positively related to antisocial moral behaviour and negatively related to prosocial moral behaviour. The study found that a performance climate positively predicted antisocial behaviour toward teammates and opponents, and positively predicted prosocial behaviour towards teammates and opponents. On one hand, results were consistent with the study's hypothesis that a performance climate would be positively related to antisocial moral behaviour. Previous research (Boixadós et al., 2004; Kavussanu, 2006; Kavussanu et al., 2006) indicated that a performance climate was positively, albeit weakly in some instances (Boixadós et al., 2004; Kavussanu, 2006), correlated with antisocial moral behaviour. Results were consistent with both the study's hypothesis and previous research indicating that a performance climate positively predicted antisocial moral behaviour. Kavussanu et al. (2006) suggest that considering the nature of competition and the emphasis placed on winning in a performance climate, antisocial moral behaviour may be

perceived as more advantageous when seeking to outplay an opponent, and therefore will occur more frequently. In this study athletes were surveyed while competing at a provincial championship, with a gold medal in the Ontario Cup going to the champion. In a competition where winning was the ultimate goal, consistent with what is emphasized in a performance climate, results supported previous research that found that antisocial moral behaviour was positively related to a performance climate.

On the other hand, results from the present study did not indicate that a performance climate was negatively related to prosocial moral behaviour. Unexpectedly, a performance climate also positively predicted prosocial moral behaviour. This was inconsistent with previous empirical evidence that indicated that a performance climate was negatively correlated with prosocial moral behaviour (Fry & Newton, 2003; Kavussanu et al., 2006). Contrary to both the hypothesis and the aforementioned previous evidence, findings from this study indicated that a performance climate was positively related to more frequent reports of prosocial moral behaviour. To the best of my knowledge, no study has ever linked a performance climate to higher levels of prosocial behaviour. It is possible that in a climate where the value of winning is emphasized, the increased team cohesion that may result from prosocial moral behaviour toward teammates could increase a team's chances of winning. Similarly, in a performance climate with a championship title on the line, penalties could negatively impact the outcome of the game, and as a result athletes may resort to more prosocial moral behavior toward opponents. However, given the novelty of this finding, replication is needed.

Mastery climate. Considering empirical evidence from previous research (Boixadós et al., 2004; Kavussanu, 2006; Kavussanu et al., 2006; Kavussanu & Spray, 2006), it was hypothesized that a mastery climate would be negatively related to antisocial moral behaviour

and positively related to prosocial moral behaviour. This hypothesis also received partial support. While a mastery climate was related in the hypothesized directions to prosocial and antisocial behaviour toward teammates, it was not related to prosocial and antisocial behaviour toward opponents. The specific pattern of relationships observed in this study had not been previously identified. Previous research (Boardley & Kavussanu, 2008; Boixadós et al., 2004; Kavussanu et al., 2006) supported the contention that perceptions of a mastery climate were negatively related to antisocial moral behaviour and positively related to prosocial moral behaviour. In contrast to previous research, in this study evidence of the negative relationship between a mastery climate and antisocial behaviour toward opponents, and the positive relationship between a mastery climate and prosocial behaviour toward opponents were not statistically significant. A mastery climate only positively predicted prosocial behaviour toward teammates.

It is unclear why the predicted relationships between a mastery motivational climate and moral behaviour were only partially supported. It is possible, considering the emphasis placed on development and improvement in a mastery climate, that behaving prosocially toward teammates contributes to the development of the team and to a sense of self-improvement. However, it is important to note that there were concerns over the degree to which the mastery subscale of the PMCSQ-2 was normally distributed. The positive kurtosis value of 2.49 indicates that when compared to a normal distribution, this distribution was more peaked (i.e., leptokurtic). Furthermore, the mastery climate subscale also had a relatively high level of skewness (-1.21). As presented in Table 1 the mastery climate subscale of the PMCSQ-2 exceeded the recommended kurtosis cut off value of ± 1.96, but did not exceed that cutoff with regards to skewness. When considering these results and the deviation from previous empirical evidence, interpretations regarding the observed relationships between the mastery climate subscale and

moral behaviour should be considered with caution. Hair et al. (2010) suggest that when sample sizes are greater than 200 the negative impact of non-normality on subsequent analyses may be reduced. This study had a sample size of $N = 239$, which may have mitigated some of the negative effects of leptokurtosis. However, non-normality does have the potential to impact regression results, which may explain why, with the exception of prosocial behaviour toward teammates, relationships were not observed in the hypothesized directions.

Gender and Moral Behaviour

In light of empirical evidence from previous research (Duda et al., 1991; Kavussanu & Ntoumanis, 2003; Kavussanu, Stamp, Slade & Ring, 2009; Sage & Kavussanu, 2007; Shields et al., 2007; Stuntz & Weiss, 2015; Weiss, Kipp, & Goodman, 2015) it was hypothesized that male athletes would report more frequent antisocial moral behaviour than female athletes and less frequent prosocial moral behaviour than female athletes. The present results supported both of these hypotheses. Such results are in line with a large body of research indicating that empirical evidence of these relationships appears to be fairly consistent. However, the present study also indicated that a more intricate understanding of gender differences in moral behaviour in sport could be gained by considering an athlete's perfectionistic orientation.

Several studies (Duda et al., 1991; Sage & Kavussanu, 2007; Stuntz & Weiss, 2015; Weiss, Kipp, & Goodman, 2015) reported that moral behaviour differed as a function of gender, males engaged in more frequent unsportspersonlike play, behaviour that reflected antisocial moral behaviour. In contrast, females engaged in more frequent sportspersonlike play, behaviour that reflected prosocial moral behaviour. However, Kavussanu and colleagues (2009) found gender differences in antisocial moral behaviour, but not prosocial moral behaviour. In line with the majority of previous research, results from the present study suggest that when compared to

females, males reported engaging in more antisocial behaviour toward teammates and opponents.

Interactions Between Perfectionistic Orientation and Gender

Male and female youth athletes exhibit differences in moral behaviour when playing basketball, in the present study these differences were dependent on perfectionistic orientation. With respect to male athletes and perfectionistic orientation it was hypothesized that the positive relationship between male athletes and antisocial moral behaviour would be especially strong among athletes with an unhealthy perfectionistic orientation, but less so among male athletes with a healthy perfectionistic orientation. Results were consistent with this hypothesis. Male athletes with an unhealthy perfectionistic orientation reported the highest levels of antisocial moral behaviour, followed by healthy perfectionists, the lowest levels of antisocial moral behaviour were reported by nonperfectionists. While no study has empirically investigated the relationships between perfectionistic orientation and moral behaviour in sport, previous research has examined the relationship between multidimensional perfectionism and moral behaviour. Limited evidence (Flett et al., 1995; Yang et al., 2015) from a non-sport context suggests that perfectionism may be related to moral behaviour. Results from the present study indicated that perfectionistic orientation and gender interacted to predict both antisocial moral behaviour and prosocial moral behaviour.

Male athletes and athletes with an unhealthy perfectionistic orientation share similar perspectives toward competition in sport. Gill (2002) states that male athletes typically report higher levels of competitiveness and greater winning aspirations than female athletes. Likewise, athletes with an unhealthy perfectionistic orientation exhibit a tremendous desire to avoid failure (Dunn et al., 2002). Considered in combination these perspectives suggest that winning may be highly valued among male athletes with an unhealthy perfectionistic orientation. In sport,

antisocial behaviour may help establish a competitive edge (Ryska, 2003). As a result, males with an unhealthy perfectionistic orientation may resort to antisocial moral behaviour to gain that competitive edge. Although these conclusions are speculative, and additional research should be conducted to substantiate these results, it is possible that in order to avoid failure, male athletes with an unhealthy perfectionistic orientation are likely to engage in more antisocial moral behaviour to gain a competitive advantage and win by any means necessary.

Female athletes and athletes with a healthy perfectionistic orientation have similar approaches to sport. Female athletes tend to be task-oriented such that they focus more on skill development and improvement (Duda et al., 1991). Similarly, athletes with a healthy perfectionistic orientation tend to enjoy the effort put into improving their skills and performance (Hamachek, 1978). This suggests that to female healthy perfectionists, it is improving their skills and play that is valued more so than winning. Therefore there is little advantage to engaging in antisocial behaviour in sport, as it may not facilitate skill development. However, working cohesively as a team and learning from teammates may provide the opportunity to develop and improve their skills. As a result, female athletes with a healthy perfectionistic orientation may engage in more prosocial moral behaviour as a means to improve their skills and the skills of their teammates. Given this was the first study to report that perfectionism and gender interacted resulting in more frequent prosocial moral behaviour toward teammates among females, additional research is required to further support and investigate the nature of this relationship. As a preliminary investigation, the present study contributes to the literature by providing evidence that perfectionistic orientation is an important variable to consider when examining moral behaviour in sport.

Interactions With Motivational Climate

Perfectionism. Based on consistent findings from previous literature that examined the relationship between motivational climate and perfectionism (Carr & Wyon, 2003; Lemyre et al., 2008; Nordin-Bates et al., 2014; Ommundsen et al., 2005) it was expected that the positive relationship between a performance motivational climate and antisocial moral behaviour in sport may be especially strong for athletes with an unhealthy perfectionistic orientation, but less so among athletes with a healthy perfectionistic orientation; while the positive relationship between a mastery motivational climate and prosocial moral behaviour may be especially strong for athletes with a healthy perfectionistic orientation, but less so among athletes with a unhealthy perfectionistic orientation. This study found no evidence of interactions between perfectionistic orientation and motivational climate. Although previous support has been found for the hypothesized relationships between a performance climate and a mastery climate and perfectionistic orientation in sport (Carr & Wyon, 2003; Lemyre et al., 2008; Ommundsen et al., 2005), other studies (Nordin-Bates et al., 2014) have reported mixed evidence. Nordin-Bates and colleagues (2014) suggest that it is possible that a shared relationship exists between perfectionistic orientation and perceptions of the motivational climate, whereby perfectionistic orientation affects the perception of the motivational climate, and vice versa.

Perfectionism may not be as sensitive to the influence of the motivational climate as originally thought. It is possible that the mechanism that connects motivational climate to moral behaviour may be different than the mechanism that connects perfectionistic orientation to moral behaviour. This is indicated by the fact that both perfectionistic orientation and motivational climate demonstrated first order effects with moral behaviour. It is apparent that additional research is needed to clarify the nature of the relationship between perfectionistic orientation, motivational climate, and moral behaviour.

Gender. Although previous evidence did not specifically relate to the interaction between gender and motivational climate, considering findings specific to the relationship between these variables, it was hypothesized that the positive relationship between a perceived performance climate and antisocial moral behaviour would be particularly strong for male athletes, but less so for female athletes; while the positive relationship between a perceived mastery climate and prosocial moral behaviour would be particularly strong for female athletes, but less so for male athletes. This study found no evidence of interactions between gender and motivational climate. Considering previous evidence relating to gender and moral behaviour (Duda et al., 1991; Kavussanu & Ntoumanis, 2003; Stuntz & Weiss, 2015; Weiss, Kipp & Goodman, 2015) and motivational climate and moral behaviour (Boixadós et al., 2004; Kavussanu, 2006; Kavussanu et al., 2006; Kavussanu & Spray, 2006), it is noteworthy that these variables did not interact and influence moral behaviour in sport. Based on the increased value that male athletes place on winning, it is surprising that a performance climate did not interact to enhance this relationship. Moreover, in light of the SCTMTA and the posited influence of both individual and environmental influences on moral behaviour these findings are interesting. Additional research could potentially clarify this finding.

Limitations

There are a few limitations of this study. One limitation is the use of a cross-sectional design. Cross-sectional research designs only provide a ―snapshot" relevant to one particular context. As a result, the nature and direction of causality of the relationship between variables cannot be determined (Trochim, 2005). As this was the first study to examine relationships between motivational climate, gender, perfectionistic orientation, and moral behaviour in sport, the cross-sectional design was warranted. Subsequent research conducted through longitudinal

and/or experimental design may provide additional support for what was observed in this study as well as elucidate the strength and direction of relationships between perfectionistic orientation, gender, motivational climate, and moral behaviour.

Another limitation may be the use of cluster analysis to classify athletes by perfectionistic orientation. Cluster analysis is a statistical technique used to group individuals in a sample based on identifying those individuals who exhibit similar characteristics across a measured variable (Hair et al., 2010). Consequently, findings may only be representative of the current sample. Another group of athletes may not produce a similar cluster solution, and the number of clusters produced approximates the number of cases involved in the analysis. In order to deal with this limitation, several criteria including intra-cluster heterogeneity, practicality, and theoretical meaningfulness were adopted in determining the final cluster solution. Several possible cluster solutions were considered and the final solution was selected based on between group differences in the facets of perfectionism measured by the Sport-MPS-2, the practicality of the three cluster solution, and its consistency with the Tripartite Model of Perfectionism.

Another potential limitation of this study relates to the high average of participant responses on the prosocial behaviour toward teammates subscale of the PABSS, and the mastery climate subscale of the PMCSQ-2. A high average indicates that responses related to the affected subscales may not be normally distributed. With respect to the PABSS subscale, participants reported high levels of prosocial behaviour toward teammates ($M = 4.30$). With respect to the PMCSQ-2 subscale, participants reported strong perceptions of a mastery climate ($M = 4.13$). Non-normality may impact subsequent statistical analyses such as regression. Given the high average response and the low estimate of internal consistency of the PABSS subscale, conclusions drawn in regards to these subscales should be interpreted with caution. One possible

explanation for the high average of responses on these subscales is socially desirable responding. Socially desirable responding refers to the predisposition to respond to questions in a personally favourable manner (Paulhus, 2002). In an attempt to control for this, athletes were instructed, both verbally and in writing, to answer as honestly as possible, that responses were confidential and would not be viewed by anyone but the researcher, and coaches were not present for the duration of questionnaire completion. However, despite instructions, athletes may not have responded as honestly as possible given that they may not have wanted to admit to not engaging in these behaviours toward their teammates since they were in close proximity while completing the questionnaires. Considering number and length of the questionnaires that were used in this study, a measure for socially desirable responding was not included to avoid overburdening the participants. Research that includes a measure to detect and subsequently remove individuals from the study who responded in a socially desirable manner could enhance future studies.

Future Directions

One possible direction for additional research is to further explore how motivational climate, gender. and perfectionistic orientation interact to influence moral behaviour in sports other than basketball. Previous research regarding moral behaviour in sport has predominantly been focused in the context of youth soccer. This study extends previous research by using athletes from a sport other than soccer as the sample. As a result of the cross-sectional approach to this study, the generalizability of the findings from this study are limited to the context of youth basketball. Additional insight may be obtained by studies that replicate these findings in other youth sports.

Another potential direction for future research is investigating the relationship between moral perfectionism (as opposed to sport-based perfectionism) and moral behaviour in sport. As

this was the first study to examine relationships between sport-based perfectionism and moral behaviour, the relationships between moral behaviour and perfectionism were investigated using instruments designed specifically for the sport context. Given that perfectionism is considered a domain-specific construct (Dunn et al., 2005, Gotwals, 2011) researchers interested in examining the relationship between perfectionism and moral behaviour in sport may be best served by using a measure specific to sport-based moral perfectionism rather than sport-based perfectionism. For example, a recent study by Yang et al., (2015) examined moral perfectionism as a domain-specific type of perfectionism by adapting the instrument to reflect the desire to behave in a perfectly moral fashion. Future studies that incorporate an adapted version of the Sport-MPS-2 that reflects moral perfectionism may provide additional insight into the relationship between perfectionism and moral behaviour in sport.

Lastly, referees are another environmental factor that has the potential to influence an athlete's moral behaviour in sport. In many sports, referees are generally thought to be the unbiased enforcers of the rules (Thu et al., 2002). However, refereeing decisions can substantially impact the outcome of a game. An official's decisions whether they are appropriate, missed, excessive, or one-sided calls may result in an increase in antisocial behaviour (Coakley, 1998; Souchon, Coulomb-Cabagno, Traclet, & Rascle, 2004). Although not incorporated into the data collection of this study, between data collection sessions, I watched many games throughout the course of the two tournaments. Generally, as games progressed, the environment created by the referee influenced athlete behaviour. Antisocial behaviour appeared to be more frequent as a result of the calls referees missed or if they were perceived as one-sided.

In a two-part study Souchon et al. (2004) videotaped one male and one female handball game. Select scenarios from these games were then shown to referees who were asked a series of

questions regarding the scenario and the subsequent call they would make. Females were given both harsher and more frequent penalties when compared to their male counterparts. Similar to what Souchon et al. (2004) observed, although it was not empirically tested in this study, while watching games throughout both tournaments, my perception was that many more fouls were assessed during the course of the girl's tournament when compared to the boy's tournament. It is possible given this perception that the girls may have been assessed more fouls, that they made a conscious effort to behave more prosocially to avoid being penalized. Given that the same dynamic did not appear to be present in the boys' tournament, more antisocial moral behaviour may have occurred. Future research that examines both referee and athlete behaviour and the subsequent influence the referee has on the motivational climate may provide additional insight regarding the relationships between perfectionism and moral behaviour in sport.

Conclusion

The objective of the present study was to explore how motivational climate, gender, and perfectionistic orientation individually and interactively related to moral behaviour in sport. While first order effects of motivational climate on moral behaviour were present, neither a performance climate nor a mastery climate interacted with perfectionistic orientation or gender to predict moral behaviour. However, moral behaviour in sport was influenced by the interaction between perfectionistic orientation and gender. In general, being a male unhealthy perfectionist predicted higher antisocial moral behaviour, while being a female healthy perfectionist predicted higher prosocial moral behaviour. These findings provide some initial insight into the nature of the relationship between perfectionistic orientation, gender, and moral behaviour in sport.

The present findings suggest that individual differences in perfectionistic orientation and gender are important variables to consider when examining moral behaviour in sport. This study

makes several academic contributions by examining the perceived motivational climate in basketball, by being the first to examine perfectionism and moral behaviour in sport, and finally by examining how the interactions between perfectionistic orientation, motivational climate. and gender influence moral behaviour in sport. From an applied perspective, this study highlights the need to consider the interaction of individual variables, namely perfectionistic orientation and gender, and how they impact subsequent moral behaviour among athletes. Stoeber (2011) suggests that positive behavioural changes can occur as a result of the development of programs that recognize, confront, and transform unhealthy perfectionistic orientations in athletes. Evidence from this study suggests that programs that attempt to mitigate the impact of an unhealthy perfectionistic orientation on moral behaviour in sport may benefit from considering gender. As an athlete understanding the nature of one's perfectionistic orientation may provide insight that helps regulate behaviour while participating in sport. Individual athletes may learn coping strategies, either through specially designed educational programs or professional intervention, which may lessen the negative impact of an unhealthy perfectionistic orientation on moral behaviour in sport. Alternatively, teammates, coaches and parents that reinforce positive moral behaviour exhibited by athletes with healthy perfectionistic orientations may enhance prosocial moral behaviour in sport. Considering theoretical models such as the SCTMTA, additional studies that enhance the understanding of the influence of environmental factors such as the motivational climate, and personal factors such as perfectionistic orientation and gender, and their subsequent interaction can contribute to the understanding of moral behaviour in sport.

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Appendix A: Demographic Questionnaire

Demographic Questions		
1.	Are you:	Male ☐ Female ☐
2.	How old are you? _____	
3.	Please indicate your ethnicity:	
	Caucasian ☐ Middle Eastern ☐ Asian ☐ Mixed ☐	First Nations ☐ Black/African Canadian ☐ Hispanic or Latino ☐ Other ☐_____(Please specify.)
4.	How old were you when you started playing competitive basketball?	
5.	Please provide the name of the team you play for:	
6.	How many years have you competed for this team?	
7.	How many hours per week did you spend playing basketball during this past season?	

General Instructions (Please Read Carefully)

- ★ You will now be asked to complete three questionnaires relating to your feelings, attitudes, and expectations toward your sport.
- ★ Please read all instructions carefully before completing the questionnaire.
- ★ There are *no right or wrong answers* to any questions. Please respond honestly.
- ★ **The individual information you provide here will be kept private. No one, other than the research team, will ever see your individual responses to these questionnaires.**

Appendix B: Moral Behaviour Questionnaire

Moral Behaviour Questionnaire

Instructions: Below is a list of behaviours likely to occur during a game. Please think about the games you have played *this season* and indicate *how often* you engaged in these behaviours by circling the relevant number on the scale below. Please respond *honestly*.

	While playing for my team this season, I…	Never	Almost Never	Sometimes	Often	Very Often
1	Gave positive feedback to a teammate.	1	2	3	4	5
2	Criticized an opponent.	1	2	3	4	5
3	Broke the rules of my sport.	1	2	3	4	5
4	Argued with a teammate.	1	2	3	4	5
5	Helped an opponent off the floor.	1	2	3	4	5
6	Deliberately fouled an opponent.	1	2	3	4	5
7	Argued with a referring decision even if I felt it was wrong.	1	2	3	4	5
8	Asked to stop play for an injured opponent.	1	2	3	4	5
9	Verbally abused a teammate.	1	2	3	4	5
10	Encouraged a teammate.	1	2	3	4	5
11	Abided by all of the rules in my sport.	1	2	3	4	5
12	Retaliated after a bad foul.	1	2	3	4	5
13	Helped an injured opponent.	1	2	3	4	5
14	Argued with officials.	1	2	3	4	5
15	Criticized a teammate.	1	2	3	4	5
16	Gave constructive feedback to a teammate.	1	2	3	4	5
17	Bent the rules to win.	1	2	3	4	5
18	Tried to wind up an opponent.	1	2	3	4	5
19	Vented my frustrations on match officials.	1	2	3	4	5
20	Swore at a teammate.	1	2	3	4	5
21	Did not swear at officials.	1	2	3	4	5
22	Congratulated a teammate for good play.	1	2	3	4	5
23	Tried to injure an opponent.	1	2	3	4	5
24	Tested the boundaries to see what I could get away with.	1	2	3	4	5
25	Intentionally distracted an opponent.	1	2	3	4	5
26	Showed frustration at a teammate‟s poor play.	1	2	3	4	5
27	Intentionally broke the rules of the game.	1	2	3	4	5
28	Physically intimidated an opponent.	1	2	3	4	5
29	Accepted that the official‟s decision is final.	1	2	3	4	5
30	Always obeyed the rules of my sport.	1	2	3	4	5

Appendix C: Perceived Motivational Climate in Sport Questionnaire-2 (PMCSQ-2; Newton, Duda & Yin, 2000).

Sport Environment Questionnaire

Instructions: Please think about how it has felt to play on your team throughout this season. What is it usually like on your team? Read the following statements carefully, and respond to each in terms of how you view the typical atmosphere on your team. Perceptions naturally vary from person to person, so be certain to take your time and answer as honestly as possible. Circle the number that best represents how you feel.

To what extent do you agree or disagree with the following statements?

	On this team...	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1	The coach wants us to try new skills	1	2	3	4	5
2	The coach gets mad when a player makes a mistake	1	2	3	4	5
3	The coach gives most of his or her attention to the stars	1	2	3	4	5
4	Each player contributes in some important way	1	2	3	4	5
5	The coach believes that all of us are crucial to the success of the team	1	2	3	4	5
6	The coach praises players only when they outplay teammates	1	2	3	4	5
7	The coach thinks only the starters contribute to the success of the team	1	2	3	4	5
8	Players feel good when they try their best	1	2	3	4	5
9	Players are taken out of a game for mistakes	1	2	3	4	5
10	Players at all skill levels have an important role on the team	1	2	3	4	5
11	Players help each other learn	1	2	3	4	5
12	Players are encouraged to outplay the other players	1	2	3	4	5
13	The coach has his or her own favourites	1	2	3	4	5
14	The coach makes sure players improve on skills they are not good at	1	2	3	4	5
15	The coach yells at players for messing up	1	2	3	4	5
16	Players feel successful when they improve	1	2	3	4	5
17	Only the players with the best „stats" get praise	1	2	3	4	5

On this team...		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
18	Players are punished when they make a mistake	1	2	3	4	5
19	Each player has an important role	1	2	3	4	5
20	Trying hard is rewarded	1	2	3	4	5
21	The coach encourages players to help each other	1	2	3	4	5
22	The coach makes it clear who he or she thinks are the best players	1	2	3	4	5
23	Players are „psyched" when they do better than their teammates in a game	1	2	3	4	5
24	If you want to play in a game you must be one of the best players	1	2	3	4	5
25	The coach emphasizes always trying your best	1	2	3	4	5
26	Only the top players „get noticed" by the coach	1	2	3	4	5
27	Players are afraid to make mistakes	1	2	3	4	5
28	Players are encouraged to work on their weaknesses	1	2	3	4	5
29	The coach favours some players more than others	1	2	3	4	5
30	The focus is to improve each game/practice	1	2	3	4	5
31	The players really „work together" as a team	1	2	3	4	5
32	Each player feels as if he/she is an important team member	1	2	3	4	5
33	The players help each other to get better and excel	1	2	3	4	5

Appendix D: Sport Perfectionism Inventory

Personal Attitudes and Experiences in Sport

INSTRUCTIONS: The purpose of this questionnaire is to examine your current attitudes and experiences in sport. Please indicate the extent to which you agree or disagree with each one of the following statements. (Circle one response option to the right of each statement). There are no right or wrong answers so please don"t spend too much time on any one statement; simply choose the answer that best describes your current attitudes and experiences in sport.

To what extent do you agree with the following statements?		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1	If I do not set the highest standards for myself in sport, I am likely to end up a second-rate player.	1	2	3	4	5
2	In sport, I feel extremely stressed if everything does not go perfectly.	1	2	3	4	5
3	I usually feel uncertain as to whether or not my training effectively prepares me for competition.	1	2	3	4	5
4	On the day of competition I have a routine that I try to follow.	1	2	3	4	5
5	It is important to me that I am thoroughly competent in everything I do in my sport.	1	2	3	4	5
6	I usually feel unsure about the adequacy of my pre-competition practices.	1	2	3	4	5
7	I think I expect higher performance and greater results in my daily sport training than most athletes.	1	2	3	4	5
8	I have and follow a pre-competitive routine.	1	2	3	4	5
9	I rarely feel that my training fully prepares me for competition.	1	2	3	4	5
10	I feel other athletes generally accept lower standards for themselves in sport than I do.	1	2	3	4	5
11	In sport, I become furious if I make mistakes.	1	2	3	4	5
12	I set higher achievement goals than most athletes who play my sport.	1	2	3	4	5
13	I follow pre-planned steps to prepare myself for competition.	1	2	3	4	5
14	People will probably think less of me if I make mistakes in competition.	1	2	3	4	5
15	Prior to competition, I rarely feel satisfied with my training.	1	2	3	4	5
16	I follow a routine to get myself into a good mindset going into competition.	1	2	3	4	5
17	If I fail in competition, I feel like a failure as a person.	1	2	3	4	5

To what extent do you agree with the following statements?		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
18	I rarely feel that I have trained enough in preparation for a competition.	1	2	3	4	5
19	I develop plans that dictate how I want to perform during competition.	1	2	3	4	5
20	The fewer mistakes that I make in competition, the more people will like me.	1	2	3	4	5
21	I usually have trouble deciding when I have practiced enough heading into a competition.	1	2	3	4	5
22	I should be upset if I make a mistake in sport.	1	2	3	4	5
23	I set plans that highlight the strategies I want to use when I compete.	1	2	3	4	5
24	In sport I am a perfectionist as far as my targets are concerned.	1	2	3	4	5
25	If I do not do well in competition, I feel that people will not respect me as an athlete.	1	2	3	4	5
26	In sport, I want to do everything perfectly	1	2	3	4	5
27	If I perform well but only make one obvious mistake in the entire competition, I still feel disappointed with my performance.	1	2	3	4	5
28	I hate being less than the best at things in sport.	1	2	3	4	5
29	In sport, I strive to be as perfect as possible.	1	2	3	4	5
30	Even if I fail slightly in sport, for me, it is as bad as being a complete failure.	1	2	3	4	5
31	In sport, it is important to be perfect in everything I attempt.	1	2	3	4	5
32	I have extremely high goals for myself in sport.	1	2	3	4	5
33	In sport, I get frustrated if I do not fulfill my high expectations	1	2	3	4	5
34	In sport, I feel the need to be perfect.	1	2	3	4	5
35	In sport, I feel depressed if I have not been perfect.	1	2	3	4	5
36	In sport, if something does not go perfectly, I am dissatisfied with the whole performance.	1	2	3	4	5
37	If a teammate or opponent (who plays a similar position to me) performs better than me during competition, then I feel like I failed to some degree.	1	2	3	4	5

Appendix E: Letter to League Administrator

Dear League Administrator,

My name is Ms. April Hadley, and I am currently completing my MSc. in Kinesiology at Lakehead University. I am planning to conduct a study titled *"Motivational climate and moral behaviour in youth sport: Examining the moderating role of perfectionism",* under the supervision of Dr. John Gotwals. With your permission, we would like to invite teams from the Men's and Women's junior divisions (U19) who will be participating in the OBA Provincial Championships (May 8-10 and June 5-7) to participate in my research study.

As implied in the title, the project is focused on youth athletes" tendencies to behave morally—that is, to deliberately "do the right thing, for the right reason." As promoted in the sports media, there are frequent reports of athletes behaving in an immoral fashion. What may not be promoted as much, though, are athletes" tendencies to engage in voluntary behaviour that benefits others such as refraining from scoring to aid an injured opponent. This study examines how athletes" moral behaviour is influenced by the atmosphere on their team (specifically, the motivational climate) and aspects of their personality (specifically, their tendencies to be perfectionists).

This is important because sport psychology researchers currently do not fully understand the factors that influence athletes" moral behaviour. It is also important because children"s morality is generally thought to be influenced by their participation in sport. Similarly, perfectionism is an important personality trait to consider because it is very common among athletes. The insight provided by this study may facilitate the promotion of a sporting environment that will result in more frequent positive moral behaviour and have the potential to inform guidelines and parental education programs to promote appropriate moral behaviour in youth sport, especially among perfectionistic athletes. Such information may be of interest to league administrators, coaches, and parents.

Participation in the study will involve athletes" completion of four questionnaires requiring approximately 20 minutes of their time. Hard copies of the questionnaires may be completed at meeting arranged with the assistance of the coach. The choice to participate will not impact any athletes" playing status. Coaches will not be present during survey completion. Similarly, coaches will not be made aware of who chose to participate and will not have access to data specific to any member of their team. Copies of the questionnaires are attached should you wish to review them.

To recruit athletes for the study, we would like to first contact coaches of the teams in your league to: (a) inform them about the study, and (b) ask if they would allow us to recruit their team members as potential participants. The details of the study will be explained to the parents verbally and in an information letter. We will arrange for a meeting with the team to inform them about the study, to obtain consent from athletes who want to participate, and to ask consenting athletes to complete the questionnaires.

If you are willing to allow teams from your league to participate in this study, we only ask that you foster our ability to distribute information about the study to your coaches. In return, we would be glad to provide a report of the study"s findings to you. This report will be available by September 2015. Feel free to contact us if you have any questions about the study. Our phone numbers and e-mails are listed below. Please contact the Sue Wright with the Research Ethics Boards at Lakehead University (c/o Office of Research, 807-343-8283) if you wish to speak to someone who has no direct involvement with this study. Please respond to akhadley@lakeheadu.ca indicating your intent to allow your league"s teams to participate. Your assistance and participation will be a valuable component of the project.

Thank you for your consideration and I look forward to hearing back from you.

Yours truly,

Ms. April Hadley
M Sc. Kinesology Candidate
Graduate Student Researcher
(807) 632 0832
akhadley@lakeheadu.ca

Dr. John Gotwals
Associate Professor
Faculty Supervisor
(807) 346-7952
john.gotwals@lakeheadu.ca

Appendix F: Coach Information Letter

Dear Coach,

My name is April Hadley, I am a student in the Master of Science in Kinesiology program at Lakehead University. I am conducting a research study titled*, "Motivational climate and moral behaviour in youth sport: Examining the moderating role of perfectionism",* under the supervision of Dr. John Gotwals. The purpose of this letter is to describe this project, outline your potential role in the project, and ask if I could meet with your team to see if they would be willing to participate in the study. The study has been approved by the Lakehead University Research Ethics Board, and permission to contact you has been obtained from league administrators.

Project Focus

As implied in the title, the project is focused on youth athletes" tendencies to behave morally—that is, to deliberately "do the right thing, for the right reason." This is important because sport psychology researchers currently do not fully understand the factors that influence athletes" moral behaviour. It is also important because children"s morality is generally thought to be influenced by their participation in sport. Similarly, perfectionism is an important personality trait to consider because it is very common among athletes. The insight provided by this study may facilitate the promotion of a sporting environment that will result in more frequent positive moral behaviour and have the potential to inform guidelines and parental education programs to promote appropriate moral behaviour in youth sport, especially among perfectionistic athletes. Such information may be of interest to league administrators, coaches, and parents.

Coaches' Role in the Project

We would like your help with one important aspect of this study. We would like to ask for your assistance in arranging a meeting with your athletes at the Ontario Cup Provincial Tournament. The date and time for an information meeting would be set based on the schedule and needs of your team. At this meeting I would ask your athletes if they would consider taking part in the project and administer the questionnaires. I would request that you to give out information packets to your team prior to the tournament. These will spell out the how the study will work. The athletes will then be able to make an informed decision about taking part in the study. In return for the your participation the student researcher can discuss the general results of the study with you, and potentially provide strategies for improving athletes" moral behaviour in sport.

We will be contacting you in person at the Ontario Cup Tournament to clarify our study. Please feel free to contact us if you have any questions about the study. Our phone numbers and e-mails are listed below. Please contact the Research Ethics Boards at Lakehead University (c/o Office of Research, 807-343-8283) if you wish to speak to someone who has no direct involvement with this study.

We hope that you are (a) are willing to participate in this project (as outlined in the "Coaches" Role in the Project" section) and (b) will allow us to approach your team about this study. Please **respond to akhadley@lakeheadu.ca indicating your willingness to provide assistance in conducting this study.**

Thank you for your cooperation,

Yours truly,

Ms. April Hadley
M Sc. Kinesology Candidate
Graduate Student Researcher
(807) 632 0832
akhadley@lakeheadu.ca

Dr. John Gotwals
Associate Professor
Faculty Supervisor
(807) 346-7952
john.gotwals@lakeheadu.ca

Appendix G: Athlete Information Letter

Dear Potential Participant,

We gladly welcome your participation in a research study titled, “Motivational climate and moral behaviour in youth sport: Examining the moderating role of perfectionism”, to be carried out by Ms. April Hadley, a student in the Master of Science in Kinesiology program at Lakehead University. Your participation is being requested, as you are an athlete between the ages of 15 and 19 involved in a medium to high-level contact sport (i.e., basketball). The purpose of this letter is to ask you to consider participating this research project.

Your Role in the Project

Your participation in this project would involve the completion of four questionnaires requiring about 20 minutes of your time. Below is a summary of the procedure:

(1) At a meeting time prearranged with your coach, you would complete a brief packet of surveys. The first survey is a brief basic demographic information questionnaire where you are asked about yourself and your history in competitive sport. A second survey asks you about your achievement motivation in sport. A third survey asks about your perception of the motivational climate that characterizes your team. A fourth survey asks about how you behave in sport. Copies of the questionnaires are attached for your information.

(2) The questionnaire packet will take about 20-minutes for you to complete.

Ethical Issues Regarding Your Participation

(1) Your decisions to take part in the study will be entirely voluntary. Your decision to take part in this study will have no impact upon your playing status.

(2) Your responses will remain completely confidential and anonymous. Coaches not be present during survey completion. In addition, coaches will not have access to data or findings specific to any athlete or to their team in general.

(3) There are no mental or physical risks associated with completing the surveys. However, should you feel anxiety following the completion of the questionnaires and would like to talk to someone about sport-related or personal issues thatarise as a result of your participation in this study, you are welcome to contact Dr. Andrew Friesen (afriesen@lakeheadu.ca; 343-8290). Dr. Friesen is a sport psychology consultant who frequently works with athletes.

(4) The Research Ethics Board at Lakehead University has given us permission to conduct this study. (Copies of the information letters and consent forms that would be used in the study have been attached).

(5) You may decline to take part or drop out from any stage of the study for any

reason with no consequences.

Data Access and Presentation

(1) Hard copies of your completed questionnaires will be stored in a locked office at Lakehead University. Electronic files compiling your responses will be password protected and stored on research team members‟ computers. Only the research team will have access to these hard copies and electronic files.
(2) All data will be destroyed five years after the completion of the study.
(3) A report of the study‟s findings can be provided to your team. This report will be available by September 2015.
(4) We will be happy to discuss any aspect of the study with you at any time.

If you have any questions or concerns at any point regarding during this investigation, please do not hesitate to contact either the graduate student researcher or her faculty advisor. Our phone numbers and e-mails are listed below. The Lakehead University Research Ethics Board has approved this project and please contact Sue Wright with the Research Ethics Boards at Lakehead University (c/o Office of Research, 807-343-8283) if you wish to speak to someone who has no direct involvement with this study.

Thank you for your cooperation,

Yours truly,

Ms. April Hadley
M Sc. Kinesology Candidate
Graduate Student Researcher
(807) 632 0832
akhadley@lakeheadu.ca

Dr. John Gotwals
Associate Professor
Faculty Supervisor
(807) 346-7952
john.gotwals@lakeheadu.ca

Appendix H: Athlete Consent Form

Title of Project:	***Motivational climate and moral behaviour in youth sport: Examining the moderating role of perfectionism.***
Principal Investigator:	***Dr. John Gotwals, Lakehead University, (807) 346-7952, john.gotwals@lakeheadu.ca***
Student-Investigator:	***Ms. April Hadley, Lakehead University, (807) 632-0832, akhadley@lakeheadu.ca***

To be completed by the research participant (i.e., the athlete):

I have read and understand that:

- I have been asked to take part in the above mentioned research study;
- There is no mental or physical risk to my participation in this study;
- The choice to participate will not impact my playing status. Coaches will not be present during survey completion. Coaches will not be made aware of who chose to participate and will not have access to data specific to any member of their team;
- I may contact the student researcher or her supervisor at anytime throughout the study to ask questions regarding my participation;
- My participation is voluntary and I have the right to stop participation at any time, without consequence and that my information will be removed from the study at my request;
- The anonymity and confidentiality of my data will be maintained to the highest degree, only the student researcher and her thesis committee will have access to my data;
- Any information presented in the academic community will maintain my anonymity and confidentiality;
- Information I provide will be securely stored for a minimum of 5 years in the School of Kinesiology at Lakehead University; and
- If I choose, I may provide my contact information, or I may contact the researcher by phone or email, to obtain a summary of the findings from this study.

I agree to take part in this study:

_____	_____	_____
Printed Name	Signature	Date

☐ I would like to receive a summary of the results when completed.

_____	_____
email	Phone Number

Table 2

Variables Assessing First-order Effects for Each Analysis by Outcome Variable

	Predictor Variables Entered By Analysis			
Outcome Variable	1st Analysis	2nd Analysis	3rd Analysis	4th Analysis
Antisocial Behaviour Toward Opponents	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2
Antisocial Behaviour Toward Teammates	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2
Prosocial Behaviour Toward Opponents	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2
Prosocial Behaviour Toward Teammates	Gender Performance Climate Perfectionism – Dummy Codes – Set 1	Gender Performance Climate Perfectionism – Dummy Codes – Set 2	Gender Mastery Climate Perfectionism – Dummy Codes – Set 1	Gender Mastery Climate Perfectionism – Dummy Codes – Set 2

Table 4

Sport-MPS-2, PABSS, and PMCSQ-2 Internal Consistency Estimates (α), and Bivariate Correlations (r).

	Sport-MPS-2				*PABSS*				*PMCSQ-2*	
Subscale	PS	ORG	COM	DAA	ASO	AST	PSO	PST	MC	PC
Sport-MPS-2										
PS	$\alpha = .74$									
ORG	.47**	$\alpha = .88$								
COM	.28**	.22**	$\alpha = .84$							
DAA	.03	-.001	.54**	$\alpha = .74$						
PABSS										
ASO	.18**	.20**	.23**	.22**	$\alpha = .83$					
AST	.14*	.11	.16*	.21**	.63**	$\alpha = .82$				
PSO	-.04	.12	.16*	.15*	-.01	.06	$\alpha = .73$			
PST	.26**	.18**	.06	.03	.12	.07	.19**	$\alpha = .65$		
PMCSQ-2										
MC	.10	.19**	-.17**	-.29**	-.11	-.20**	-.01	.19**	$\alpha = .92$	
PC	.20**	.16*	.45**	.40**	.29**	.33**	.11	.16*	-.39**	$\alpha = .92$

Note. $N = 239$. Subscale abbreviations: PS = Personal Standards; ORG = Organization; COM = Concern Over Mistakes; DAA = Doubts About Actions; ASO = Antisocial Behaviour Toward Opponents; AST = Antisocial Behaviour Toward Teammates; PSO = Prosocial Behaviour Toward Opponents; PST = Prosocial Behaviour Toward Teammates; MC = Mastery Climate; and PC = Performance Climate.
* $p < .05$, two-tailed; ** $p < .01$, two-tailed.

perfectionists to healthy perfectionists.

No significant interactions were found between gender and performance climate or between perfectionistic orientation and performance climate. An examination of the proportion of variance explained in the second step of the model indicated a significant interaction between perfectionism and gender ($\Delta R^2 = .027$; $F_{[2, 232]} = 3.804$, $p < .05$). Figure 2 illustrates this interaction. Subsequent probing revealed no significant differences between the perfectionistic orientations among females. However, significant differences were revealed between perfectionistic orientations among males ($F_{(2, 233)} = 8.73$, $p < .001$; partial $\eta^2 = .07$). Pairwise comparisons indicated that among males, unhealthy perfectionists reported more frequent antisocial behaviour toward opponents than both healthy perfectionists ($p = .001$) and non-perfectionists ($p < .001$). Healthy perfectionists and non-perfectionists did not differ in their reported propensity to antisocial behaviour toward opponents.

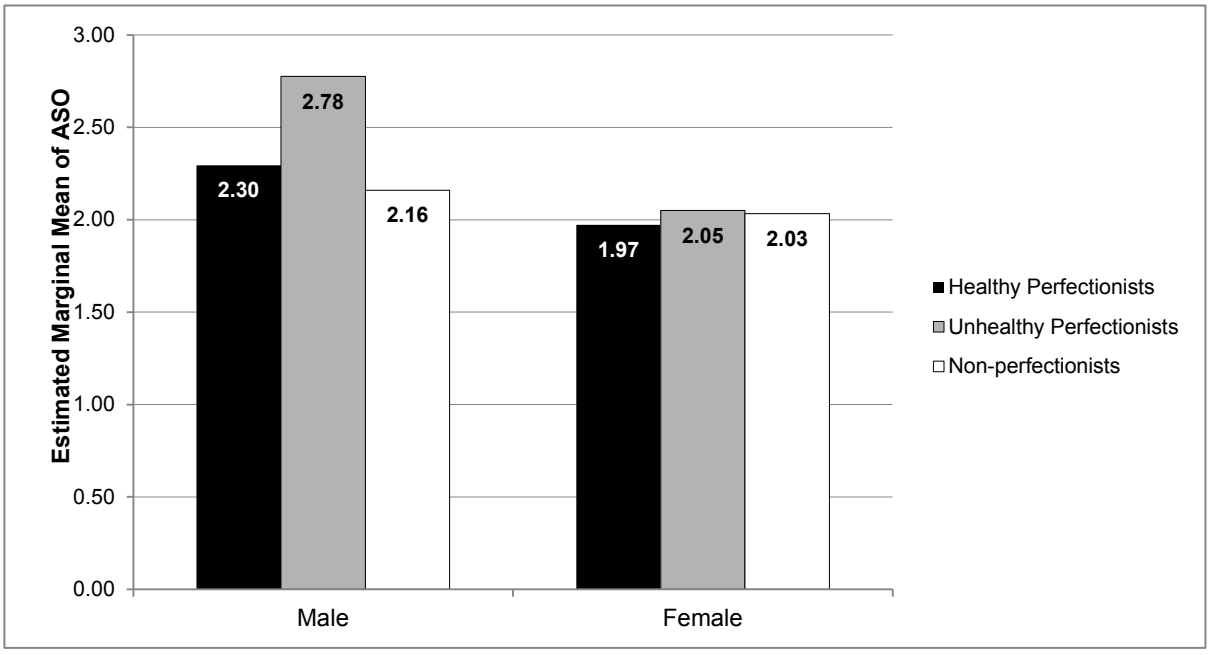

Figure 2. Mean scores across Antisocial Behaviour Toward Opponents (ASO) between groups defined by perfectionistic orientation and gender.

Mastery climate, gender, and perfectionistic orientation were entered as the predictors in the third and fourth analyses testing for first-order effects in the prediction of antisocial

orientations among females. However, significant differences were revealed between perfectionistic orientations among males ($F_{(2, 233)} = 12.41$, $p < .001$; partial $\eta^2 = .10$). Pairwise comparisons found that among males, unhealthy perfectionists reported more frequent antisocial behaviour toward teammates than both healthy perfectionists ($p < .001$) and non-perfectionists ($p < .001$). Healthy perfectionists and non-perfectionists did not differ in their reported antisocial behaviour toward teammates.

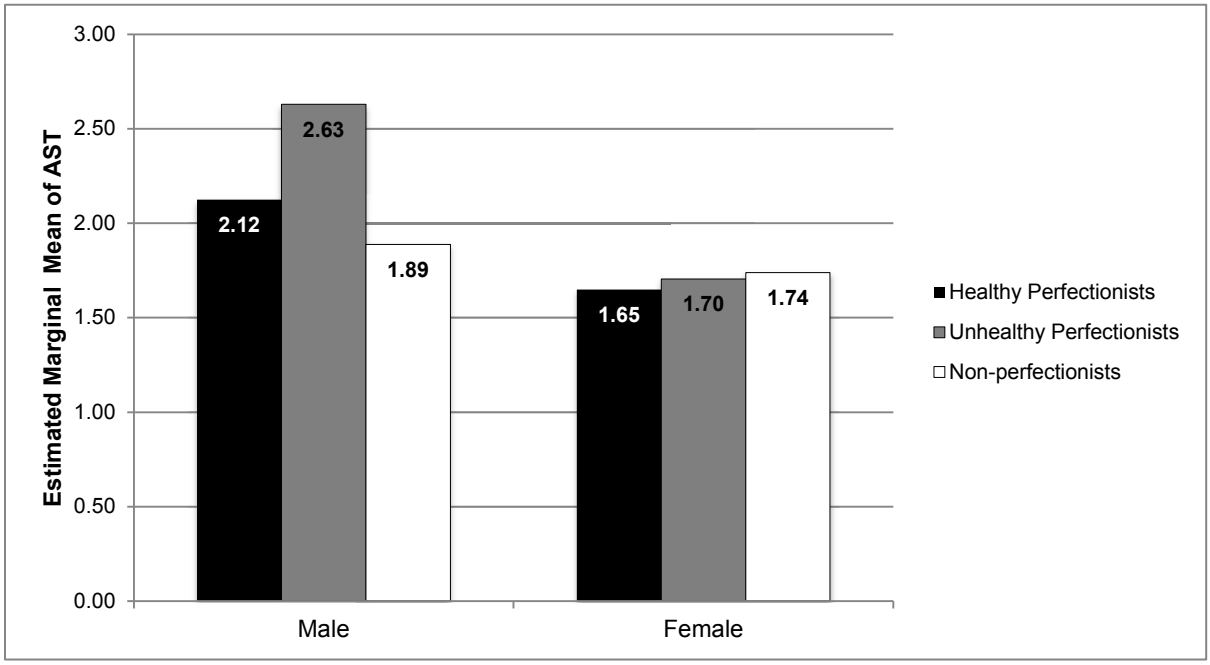

Figure 3. Mean scores across Antisocial Behaviour Toward Teammates (AST) between groups defined by perfectionistic orientation and gender.

Mastery climate, gender, and perfectionistic orientation were entered as the predictors in the third and fourth analyses testing for first-order effects in the prediction of antisocial behaviour toward teammates. The resulting regression model explained a significant amount of variance in the outcome variable ($R^2 = .184$; $F_{[4, 234]} = 13.15$, $p < .001$). The beta coefficients respectively associated with gender, DC2 and DC3 were significant (see Table 10), signifying that these variables were associated with first-order effects. Males reported more frequent

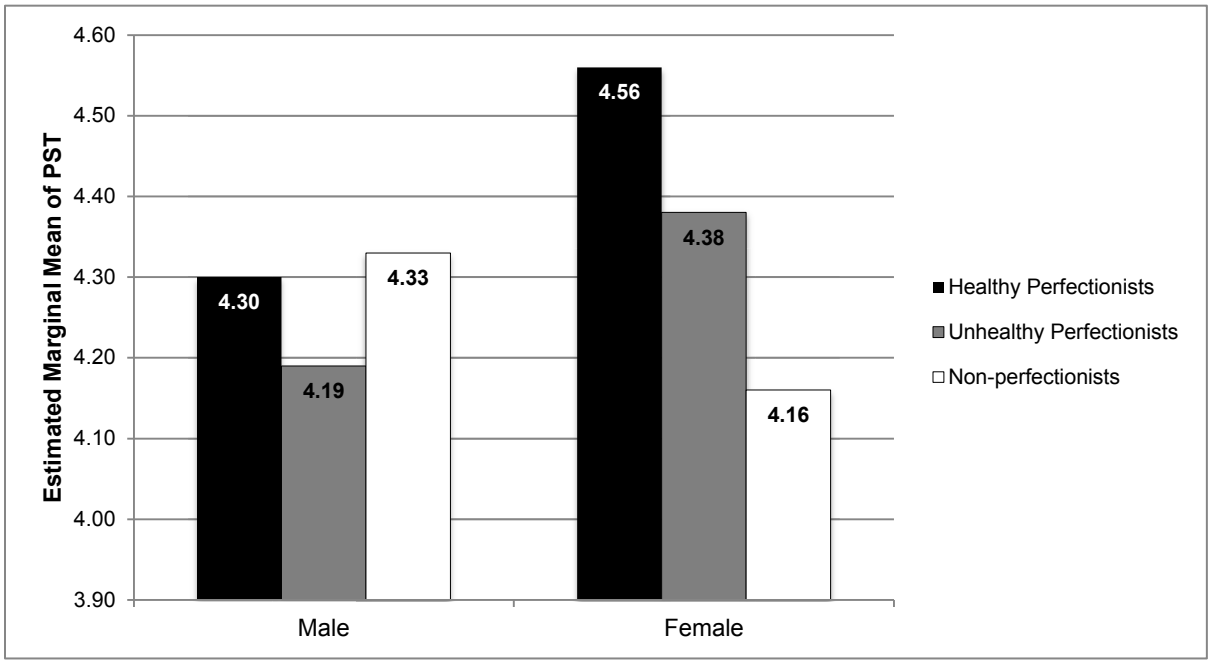

Figure 4. Mean scores across Prosocial Behaviour Toward Teammates (PST) between groups defined by perfectionistic orientation and gender.

Mastery climate, gender, and perfectionistic orientation were entered as the predictors in the third and fourth analyses testing for first-order effects in the prediction of prosocial behaviour toward teammates. The resulting regression model explained a significant amount of variance in the outcome variable ($R^2 = .221$; $F_{[4, 234]} = 3.02$, $p < .05$). The beta coefficient associated with mastery climate was significant (see Table 14), signifying that this variable was associated with a first-order effect. Stronger perceptions of a mastery climate were associated with higher levels of prosocial behaviour toward teammates.