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Exploring Predictors of the Coach-Athlete Relationship: Passion, Perfectionism, and Leadership Behaviors

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**EXPLORING PREDICTORS OF THE COACH-ATHLETE RELATIONSHIP:
PASSION, PERFECTIONISM, AND LEADERSHIP BEHAVIORS**

A Masters Thesis presented to the Faculty of the
Graduate Program in Exercise and Sport Sciences
Ithaca College

In partial fulfillment of the requirements for the degree
Master of Science

By
Shelby N. Anderson
August 2018

**Ithaca College
School of Health Sciences and Human Performance
Ithaca, New York**

CERTIFICATE OF APPROVAL

MASTER OF SCIENCE THESIS

**This is to certify that the Thesis of
Shelby N. Anderson**

**submitted in partial fulfillment of the requirements for the
degree of Master of Science in the School of
Health Sciences and Human Performance
at Ithaca College has been approved.**

Thesis Adviser:_____

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Finally, I want to acknowledge the person that led me to this research question and the field of Sport and Exercise Psychology in the first place. My relationship with Amy Weaver, my Hendrix College softball coach, was filled with trust, commitment, and autonomy, fostering growth not only as an athlete, but also as a person. Our coach-athlete relationship inspired me to explore this topic academically in order to help other athletes and coaches have the same experience. Without her I would not be the person I am today. This thesis is only the beginning of my journey.

DEDICATION

This thesis is dedicated to anyone who has ever had a passion and was unsure how to make a difference. Start with a Master's thesis. You may even end up pursuing a Ph.D.

ABSTRACT

The coach-athlete relationship has been studied with regard to athlete outcomes (e.g., performance, cohesion, satisfaction; Cronin & Allen, 2015; Jowett, 2007; Norman & Jamie, 2013). Yet, there is limited research on what variables predict the coach-athlete relationship. Hence, the purpose of this study was to explore passion, perfectionism, and leadership behaviors as predictors of the coach-athlete relationship. Three hundred and ninety NCAA (DI-III) coaches (male $n = 231$, 59.5%, female $n = 157$, 40.3%) completed The Passion Scale (Vallerand et al., 2003), the Sport Multidimensional Perfectionism Scale-2 (Gotwals & Dunn, 2009), the Leadership Scale for Sports (Chelladurai & Saleh, 1980), and the Coach-Athlete Relationship Questionnaire (Jowett & Ntoumanis, 2004). The results indicated that passion, perfectionism, and leadership behaviors were predictors of the coach-athlete relationship with the direction of the relationship depending on the dimension. Specifically, doubts about action and autocratic leadership behaviors were negative predictors in all three dimensions (i.e., closeness, commitment, complementarity) of the coach-athlete relationship. In contrast, harmonious passion and training and instruction were positive predictors in all three dimensions with social support, democratic behaviors, and obsessive passion all being predictors in at least one of the three dimensions. There are theoretical and practical implications for coaches, athletes, and sport psychology consultants. This study helps to inform sport psychology consultants to target harmonious passion and work through doubts about actions when working with coaches. Additionally, it provides leadership behaviors coaches should focus on (i.e., training and instruction, social support, and democratic behaviors) and avoid (i.e., autocratic) to help them attain a better coach-athlete relationship.

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CHAPTER ONE

PROPOSAL

INTRODUCTION

Sport is a social domain encompassing various relationships (e.g., coach-athlete relationship). The coach-athlete relationship encompasses affective (e.g., trust, mutual respect, interpersonal liking), cognitive (e.g., intention to maintain relationship), and behavioral (e.g., cooperation) interdependence (Jowett & Cockerill, 2003; Jowett & Meek, 2000). The dimensions of closeness, commitment, and complementarity reflect the affective, cognitive, and behavioral aspects of this relationship. The coach-athlete relationship has an impact on athlete physical and psychosocial development (Jowett & Cockerill, 2002). The coach-athlete relationship has been related to performance, team cohesion, satisfaction, shared effort towards a common goal, and social/identity development (Cronin & Allen, 2015; Gould, Greenleaf, Guinan, & Yongchul, 2002; Jowett, 2007; Norman & Jamie, 2013). Previous literature suggests that the coach-athlete relationship affects athlete outcomes, yet there is little literature exploring various predictors of this relationship. Importance should be placed on understanding what personality characteristics (i.e., passion, perfectionism) and coaching behaviors (leadership behaviors), both positive and negative, may be predictors of the coach-athlete relationship.

Passion is topic that has been explored in both athletes and coaches. Passion towards an activity occurs when an individual has a strong inclination towards an activity, finds it important, and invests time and energy into it (Vallerand et al., 2003). The dualistic model of passion includes harmonious passion (HP) and obsessive passion

(OP). HP is characterized by free engagement in the activity, whereas OP is characterized by rigid persistence (Vallerand et al., 2003). In athletes, passion has been explored with regards to both intrapersonal (e.g., affect, coping strategies, burnout, and anxiety; Curran, Appleton, Hill, & Hall, 2013; Martin & Horn, 2013; Vallerand et al., 2003; Vallerand et al., 2006; Vallerand et al., 2008; Verner-Fillion et al., 2014) and interpersonal outcomes (e.g., aggression towards others, cohesion, relationship satisfaction; Donahue, Rip, & Vallerand, 2009; Paradis, Martin, & Carron, 2012; Philippe, Lafreniere, Paquet, & Hawu, 2014). Additionally, passion is influential in coaches. In coaches, HP was positively related to more satisfying relationships and OP was positively related to interpersonal conflict (Lafreniere, Jowett, Vallerand, & Carbonneau, 2011). The interpersonal nature of these findings provides limited support for the prediction of passion for the coach-athlete relationship. Yet, there are other variables that may also play a role (e.g., perfectionism).

Previous literature has shown that perfectionism is a multidimensional construct with both positive and negative consequences (Stoeber & Otto, 2006). Although there is debate on what makes up the facets and groupings of perfectionism, most researchers can agree that there are two dimensions of perfectionism: perfectionistic strivings and perfectionistic concerns (Stoeber & Otto, 2006). Perfectionistic strivings include the facets of personal standards, organization, self-oriented perfectionism, and other-oriented perfectionism (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). Perfectionistic concerns include the facets of concern over mistakes, doubts about actions, socially prescribed perfectionism, parental expectations, and parental criticism (Frost et al., 1993).

Stoeber (2011) conducted a literature review on perfectionism in athletes. The author concluded that perfectionistic strivings were positively associated with self-

confidence, hope of success, approach goal orientations, and performance in training and competition, whereas perfectionistic concerns were positively associated with competitive anxiety, fear of failure, and avoidance orientations. Additionally, coaches are a part of the sport domain. Previous literature provides evidence that perfectionism is prevalent in sport coaches (Hill & Davis, 2014; Tashman, Tenenbaum, & Eklund, 2010). Specifically, perfectionism may be contributing to burnout and lower levels of emotional regulation compared to healthy or adaptive perfectionism (Hill & Davis, 2014; Tashman et al., 2010). Previous literature has focused on perfectionism and its relationship to intrapersonal outcomes (e.g., burnout, performance, cognitive anxiety, motivation orientation; Hill & Davis, 2014; Stoeber, 2011) in both athletes and coaches. There is a lack of research on the relationship perfectionism shares with interpersonal outcomes (e.g., coach-athlete relationship) in the sport setting. Along with research looking at leadership and the coach-athlete relationship.

Leadership can be defined as coaches' behavioral aspects that influence team member's accomplishments (Chelladurai & Riemer, 1998). Chelladurai's Multidimensional Model of Leadership (MML) encompasses three behavior states (i.e., required, preferred, and actual), while also considering antecedent characteristics of the leader, situation, and members of a sport organization for positive group outcomes (Chelladurai, 1990). The Leadership Scale for Sports (LSS) was created to examine the MML and it contains 5 dimensions: training and instruction, democratic behaviors, social support, positive feedback, and autocratic behaviors (Chelladurai & Saleh, 1980). Leadership behaviors affect athlete outcomes (e.g., satisfaction, cohesion, motivation) and the coach-athlete relationship (Amorose & Horn, 2000; Horne & Carron, 1985;

Hyun-Duck & Cruz, 2016; Weiss & Friedrichs, 1986). The direction of the relationship depends on the dimension being explored. In particular, training and instruction, democratic behaviors, social support, and positive feedback may play productive roles for the coach-athlete relationship, whereas coaches' autocratic behaviors may play a maladaptive role for the coach-athlete relationship (Hollembek & Amorose, 2005; Horne & Carron, 1985; Moen, Hoigaard, & Peters, 2014).

Coaches' relationships with their athletes are vital to the sporting domain. Yet much of sport psychology research has focused on intrapersonal outcomes versus interpersonal outcomes and outcomes of the relationship versus antecedents (Jowett & Ntoumanis, 2004). Therefore, the purpose of this study was to explore the interpersonal nature of the coach-athlete relationship and to explore passion, perfectionism, and leadership behaviors as predictors or antecedents of this relationship.

Statement of Purpose

Most sport psychology literature has explored outcomes (e.g., performance, team cohesion, satisfaction) of the coach-athlete relationship from the perspective of athletes (Jowett & Ntoumanis, 2004). Therefore, the purpose of this study was to explore predictors of the coach-athlete relationship from the perspective of coaches.

Research Questions

1. Does passion predict the coach-athlete relationship?
2. Does perfectionism predict the coach-athlete relationship?
3. Does leadership behaviors predict the coach-athlete relationship?

Hypotheses

The null hypotheses for this study are:

1. There will be no prediction of passion (i.e., harmonious, obsessive) on the coach-athlete relationship.
2. There will be no prediction of perfectionism (i.e., perfectionistic strivings, organization, doubts about actions, concerns over mistakes) on the coach-athlete relationship.
3. There will be no prediction of leadership behaviors (i.e., training and instruction, democratic, social support, positive feedback, autocratic) on the coach-athlete relationship.

Assumptions of the Study

For the purpose of this study, the following assumptions will be made at the start of the study:

1. The participants are representative of typical NCAA college coaches.
2. The participants will be authentic in answering all questionnaires.
3. Assumption of homogeneity of participant's characteristics.
4. Participants will be representative of the measures of passion (i.e., harmonious, obsessive), perfectionism (e.g., perfectionistic strivings, organization, doubts about actions, concerns over mistakes), leadership behaviors (i.e., training and instruction, democratic, social support, positive feedback, autocratic), and the coach-athlete relationship (i.e., closeness, commitment, complementarity).
5. The scales will accurately assess participant's self-reported passion, perfectionism, leadership behaviors, and coach-athlete interpersonal relationship.

Definition of Terms

The following terms are operationally defined for the purpose of this study:

1. Closeness - feeling emotionally close to one another. (e.g., feeling cared for, liked, valued, and the ability to trust one another; Jowett & Ntoumanis, 2004).
2. Commitment - reflects coaches' and athletes' shared perspectives, which are developed through open lines of communication. (e.g., common goals, values, beliefs; Jowett & Ntoumanis, 2004).
3. Complementarity - coaches' and athletes' matching or cooperative interactions. (e.g., paired roles, tasks, and support; Jowett & Ntoumanis, 2004).
4. Dualistic Model of Passion - consists of two forms of passion depending on how one internalizes the activity: harmonious and obsessive (Vallerand et al., 2003).
5. Harmonious Passion - occurs when there is an autonomous internalization of the passionate activity. Individuals with harmonious passion view the activity as important to their identity and freely engage in the activity, but they do not feel overly compelled to participate (Vallerand et al., 2003). Typically viewed as positive passion.
6. Obsessive Passion - occurs when there is a controlled internalization of the passionate activity. Individuals with obsessive passion enjoy the activity, but they feel compelled to engage in the activity because they feel that contingencies are attached (Vallerand et al., 2003). Typically viewed as negative passion.
7. Perfectionism - striving for flawlessness and setting of excessively high standards accompanied by tendencies for "overly critical evaluations of one's behavior" (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991).

8. Perfectionistic Strivings - includes the dimensions of personal standards, organization, self-oriented perfectionism, and other-oriented perfectionism. Typically associated with positive outcomes (Stoeber & Otto, 2006).

9. Perfectionistic Concerns - includes the dimensions of concern over mistakes, doubts about actions, socially prescribed perfectionism, parental expectations, and parental criticism. Typically associated with negative outcomes (Stoeber & Otto, 2006).

10. Healthy Perfectionists - High levels of perfectionistic strivings and low levels of perfectionistic concerns.

11. Unhealthy Perfectionists - High levels of perfectionistic strivings and high levels of perfectionistic concerns.

12. Leadership Behaviors - the behaviors coaches display to their athletes consisting of training and instruction, social support, democratic, positive feedback, and autocratic (Chelladurai & Riemer, 1998).

13. Training and Instruction - development of athlete's skills, tactics, and performance (Chelladurai & Riemer, 1998).

14. Social Support - relationship with athletes outside of practice (Chelladurai & Riemer, 1998).

15. Democratic Behaviors - encouraging athletes to make their own decisions for goals, training objectives, and game strategies (Chelladurai & Riemer, 1998).

16. Positive Feedback - rewarding and praising athletes for good performance (Chelladurai & Riemer, 1998).

17. Autocratic Behaviors - authority of decision making (Chelladurai & Riemer, 1998).

Delimitations of the Study

The delimitations of this study are as follows:

1. The use of the Sport-MPS-2 has not been used in coaches. However, it has been suggested to use a domain specific measurement of perfectionism (Dunn, Craft, Dunn, & Gotwals, 2011; Dunn, Gotwals, & Dunn, 2005). This will be the first study to adapt the Sport-MPS-2 to coaches.
2. The LSS was created almost 40 years ago. However, it is the most widely accepted and used leadership scale for sport coaches.
3. A delimitation of the study is that the survey will be instrumented online. Thereby creating risks of accuracy, accountability, and recollection of coaches' answers.

Limitations of the Study

The limitations of this study are as follows:

1. The results may only be generalized to collegiate coaches in the NCAA.
2. This study is a domain specific measure of perfectionism and passion in sport coaching. The results may not be generalizable to other areas of a coach's life.
3. The use of the Sport-MSP-2 may not be adaptable to college coaches.
4. The nature of this study is self-reported data.
5. The nature of this study is cross-sectional.

CHAPTER 2

PROPOSAL

REVIEW OF LITERATURE

Introduction

This literature review outlines the background of the coach-athlete interpersonal relationship, passion, perfectionism, and leadership behaviors. First, the coach-athlete interpersonal relationship with regard to athlete outcomes is explored. Second, a model of passion, passion in athletes, and passion in coaches is investigated. Third, models of perfectionism, perfectionism in athletes, and perfectionism in coaches are explored. Fourth, the Multidimensional Model of Leadership in athletes and coaches is investigated. Finally, the gap in literature exploring the prediction of passion, perfectionism, and leadership behaviors on the coach-athlete interpersonal relationship is noted.

Coach-Athlete Interpersonal Relationship

Athletic performance encompasses both intrapersonal (e.g., affect, personality) and interpersonal outcomes (e.g., coach-athlete relationship; Iso-Ahola, 1995). Most of sport psychology research has focused on intrapersonal outcomes (e.g., motivation, anxiety; Jowett & Ntoumanis, 2004). Yet, the self should be viewed as a social entity that is influenced by the relationships we share (Jowett & Ntoumanis, 2004). Jowett and Cockerill (2002) argued that the relationship between coaches and players have an impact on athlete's physical and psychosocial development. Coaches are an integral part of this relationship.

The quality of the coach-athlete relationship includes trust, respect, commitment, and cooperation (Jowett & Cockerill, 2003). Jowett and colleagues conducted a series of qualitative case studies to understand the coach-athlete relationship (Jowett & Cockerill, 2003; Jowett & Meek, 2000). The authors proposed a framework for the coach-athlete relationship (Jowett & Cockerill, 2003; Jowett & Meek, 2000). Coaches and athletes' affective (e.g., trust, mutual respect, interpersonal liking), cognitive (e.g., intention to maintain relationship), and behavioral (e.g., cooperation) interdependence are causally interconnected and reflected into the relationship. Three dimensions were proposed (i.e., closeness, commitment, and complementarity) to explain the coaches and athlete's feelings, cognitions, and behaviors (see Jowett & Cockerill, 2002).

Closeness, commitment, and complementarity were the three dimensions constructed from the qualitative case studies to define emotions, thoughts, and behaviors respectively (Jowett & Cockerill, 2002). Closeness signifies feeling emotionally close to one another. For example, feeling cared for, liked, valued, and the ability to trust one another was mentioned in the qualitative studies (Jowett & Cockerill, 2003; Jowett & Meek, 2000). Commitment reflects coaches' and athletes' shared perspectives, which are developed through open lines of communication. For example, common goals, values, and beliefs reflect commitment. Complementarity refers to coaches' and athletes' complementary or cooperative interactions. For example, complementary roles, tasks, and support enable coaches and athletes to put their efforts towards a common goal (Jowett & Cockerill, 2003; Jowett & Meek, 2000). These three dimensions (i.e., closeness, commitment, complementarity) were combined to create the Coach-Athlete

Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004). The coach-athlete relationship has been explored from the perspective of athletes.

Athlete Outcomes

The coach-athlete relationship can affect athlete outcomes both in and out of sport. In athletes, the coach-athlete relationship has been related to performance, team cohesion, satisfaction, shared effort towards a common goal, and social/identity development (Cronin & Allen, 2015; Gould et al., 2002; Jowett, 2007; Norman & Jamie, 2013). Specifically, a positive coach-athlete relationship is related to higher performance, greater team cohesion, and positive social/identity development (Cronin & Allen, 2015; Gould et al., 2002; Jowett, 2007; Norman & Jamie, 2013). This research indicates the importance of the coach-athlete relationship for athlete outcomes.

Conclusions for the Coach-Athlete Interpersonal Relationship

There is literature exploring the impact of the coach-athlete relationship on athlete outcomes (e.g., performance, cohesion, satisfaction; Cronin & Allen, 2015; Gould et al., 2002; Jowett, 2007; Norman & Jamie, 2013). However, research into what variables predict the coach-athlete relationship has not been as investigated. Therefore, emphasis should be placed on understanding what personality characteristics (i.e., passion, perfectionism) and coaching behaviors (leadership behaviors), both positive and negative, may be predictors of the coach-athlete relationship.

Passion

Philosophers were the first persons interested in the concept of passion (Vallerand et al., 2003). Two models of passion emerged through the study of philosophy. For example, “The greatest minds are capable of the greatest vices as well as of the greatest

virtues” (René Descartes 1596-1650). The first, more negative, model depicted passion as losing control or letting passion control oneself. The second, more positive, model described adaptive benefits to passion where individuals are in control of their passion (see Rony, 1990). Passion is a topic in psychology that has received minimal attention until recent years. The majority of early empirical research on passion emphasized the concept of passionate love (e.g., Baumeister & Bratslavsky, 1999; Wang & Nguyen, 1995). Up until then, research did not explore passion in the purview of an activity. Vallerand et al. (2003) proposed the dualistic model of passion, encompassing the first model for exploring passion towards an activity.

Dualistic Model of Passion

Vallerand et al. (2003) were interested in passion toward an activity (e.g., guitar playing, exercising, playing a sport). The authors defined passion as, “a strong inclination toward an activity that people like, that they find important, and in which they invest time and energy (p. 757).” Passionate activities are not something someone does, but are a part of who they are (Vallerand et al., 2003). For example, someone who has a passion for school identifies himself or herself as a “student,” or someone who has a passion for cooking identifies himself or herself as a “chef.” They do not simply go to school or cook, the passion for school or cooking has become a part of their identity. In accordance with the Self-Determination Theory (SDT) by Deci and Ryan (2000), the passionate activity is a central part of one’s identity. The SDT proposes that humans tend toward higher order organization in hopes to satisfy needs of autonomy, competence, and relatedness. According to this theory, an activity can be internalized in an autonomous or controlled fashion (Deci & Ryan, 2000). The internalization of the activity, whether it is

autonomous or controlled, forms the foundation for differentiating between the two types of passion: harmonious and obsessive (Vallerand et al., 2003).

Harmonious passion (HP) and obsessive passion (OP) can be differentiated by how the individual internalizes the activity into one's core self or identity. Harmonious passion arises when the individual has an autonomous internalization of the activity (Vallerand et al., 2003). The person views the activity as important to their identity and freely engages in the activity, but does not feel overly compelled to participate. This activity is in harmony with other aspects of one's life. In other words, the activity does not control one's life. Contrastingly, OP includes a controlled internalization of the specific activity (Vallerand et al., 2003). Individuals with OP enjoy the activity, but they feel compelled to engage in the activity because they feel that contingencies are attached. These contingencies may include feelings of social acceptance, self-esteem, or self-worth. One with OP will engage in the activity uncontrollably, eventually causing conflict with other areas of one's life (Vallerand et al., 2003). In other words, with OP the activity controls one's self.

Harmonious and obsessive passion may lead to different affect after task engagement (Vallerand et al., 2003). Individuals with OP cannot control engagement with the activity; thereby causing interference with other aspects of one's life. For example, coaches with OP may spend Sunday mornings looking over film instead of spending time with their family, thus causing interpersonal conflict within their family. Individuals with OP are likely to experience negative affect when prevented from engaging in the activity (Vallerand et al., 2003). Using the same example, if the coach spent time with his or her family instead of going over film, the coach would not

experience pleasure when with the family because their focus is still on the passionate activity (e.g., watching film). OP does not show signs of flexible behavior engagement because the activity has control over the individual, leading to rigid persistence. On the other hand, HP contributes to positive affect because the individual is in control of engagement (Vallerand et al., 2003). The behavior engagement is flexible because they can choose when to engage and when not to engage in the activity. If the same coach had HP for coaching then he or she could spend time with his or her family on Sunday and look over the film Monday morning without negative affect. Overall, HP is characterized by flexibility and positive affect, whereas OP is characterized by obstinacy and negative affect (Vallerand et al., 2003).

In conclusion, passion for an activity is not simply something someone has, but a part of who they are (Vallerand et al., 2003). For example, someone who has a passion for playing basketball identifies him or herself as a “basketball player.” In accordance with the self-determination theory (Deci & Ryan, 2000), passion can be broken down by how one internalizes it. Harmonious passion is characterized by an autonomous internalization whereas OP is characterized by a controlled internalization. Researchers have concluded that harmonious and obsessive passion may lead to positive and negative outcomes respectively (Vallerand et al., 2003). The implications of passion have been explored in the sport domain, specifically in athletes and coaches.

Passion in Athletes: Intrapersonal Outcomes. Passion in the context of sport has received attention recently, mostly from the perspective of the athlete. Numerous research studies have found support for the dualistic model of passion while examining athletes (e.g., Martin & Horn, 2013; Vallerand et al., 2003; Vallerand et al., 2008).

Research has focused mostly on intrapersonal outcomes including persistence, affect, personality (i.e., autonomous, controlled), burnout, coping strategies, anxiety, injury susceptibility, and performance attainment. The first study on passion in the sport setting was Vallerand et al. (2003). In this study (Study 3), the researchers were interested in passion and persistence. The authors found that cyclists who participated in the winter months (i.e., dangerous months) had higher levels of OP than non-winter cyclists. This study provides support that OP is characterized by rigid persistence in a task even when the task becomes dangerous. In another study that was longitudinal in nature (Study 2), the authors found that over the course of a football season, HP was related to positive affect whereas OP was related to negative affect. Since the study controlled for intrinsic and extrinsic motivation, the authors believe that passion will extend to affective states beyond that specific moment in activity engagement (Vallerand et al., 2003).

Vallerand et al. (2006) found support for an integrative sequence of passion within the context of sport. In line with Vallerand et al. (2003), the authors found that individuals with an autonomous personality positively predicted HP whereas individuals with a controlled personality positively predicted OP. In a second study, the authors found that HP led to positive affect and OP was unrelated to positive affect. As expected, OP was related to negative affect and HP was unrelated to negative affect. In the study previously mentioned, passion and affect were assessed at the same time. In the next study, the authors inserted a four-month interval. Though not causal in nature, this research design gives stronger evidence that passion is not state specific and may influence affect (Vallerand et al., 2006). Overall, the study replicated the findings that HP was related to positive affect, whereas OP was related to negative affect.

There is evidence that passion is related to burnout in the sports setting. Martin and Horn (2013) were interested in the relationships between passion, athletic identity, and burnout. Harmonious passion was negatively correlated with all three subtypes of burnout whereas OP was positively correlated with one type of burnout (e.g., emotional and physical exhaustion) and unrelated to the other two subtypes. In another study, Curran, Appleton, Hill, and Hall (2013) found that psychological needs satisfaction mediated the relationship between HP and athlete burnout although no relationship was found for OP. These articles provide support that athletes with HP are less likely to experience burnout compared to athletes with OP (Curran et al., 2013; Martin & Horn, 2013).

In addition, Verner-Fillion et al. (2014) explored the relationships between passion, coping strategies, and anxiety in the context of sport. The authors found support for a mediating role of coping strategies in the relationship between passion and anxiety. HP was associated with approach-oriented coping strategies and approach-oriented strategies were associated with less anxiety. The authors argue that approach-oriented coping strategies allow the athlete to utilize cognitive and behavioral resources to cope with the stressor (e.g., competition). Obsessive passion was associated with avoidance-oriented coping strategies and avoidance-oriented coping strategies were associated with more anxiety. The authors argue that athletes with OP use avoidance coping, which then drains their resources to deal with the stressor, thereby leading to higher levels of anxiety. In sum, athletes with HP use approach-oriented coping strategies to deal with sport stressors and have less anxiety, whereas athletes with OP use avoidance-oriented coping strategies to avoid the stressor and have more anxiety (Verner-Fillion et al., 2014).

Vallerand et al. (2008) explored the relationship between passion, achievement, and performance attainment in youth basketball players. Both HP and OP were related to mastery achievement goals. Mastery achievement goals were then positively related to performance attainment. OP was also positively related to performance-avoidance achievement goals, which were negatively related to performance attainment.

Harmonious passion was positively related to subjective well-being whereas OP was not related. The results indicate that performance attainment can be harmonious in nature.

Overall, the researchers found that both HP and OP can lead to performance attainment in sport, though HP is more ideal than OP because it was related to subjective well-being (Vallerand et al., 2008).

In conclusion, HP was found to be related to positive affect, approach-oriented coping strategies, less anxiety, and ideal for performance attainment, whereas OP was found to be related to negative affect, burnout, avoidance-oriented coping strategies, and anxiety (Curran et al., 2013; Martin & Horn, 2013; Vallerand et al., 2003; Vallerand et al., 2006; Vallerand et al., 2008; Verner-Fillion et al., 2014). As noted, there are several implications for the relationship between passion and intrapersonal outcomes; however there has been less focus in the research between passion and interpersonal outcomes in athletes.

Passion in Athletes: Interpersonal Outcomes. There has been research on the relationship between passion and intrapersonal outcomes, however it is also important to explore the relationship between passion and interpersonal outcomes. Donahue, Rip, and Vallerand (2009) were interested in the relationship between passion and aggression towards other athletes. The first study examined high school and college basketball

players. The results indicated that players with more HP were less likely to be aggressive than players with more OP. The authors were then interested in what condition fostered more aggression. The results indicated that when under a self-threat condition, obsessively passionate athletes were more likely to be aggressive than harmoniously passionate athletes. The authors explained these results by saying that for individuals with OP the activity is important for one's identity and when that identity is threatened they are more likely to lash out aggressively. Essentially, the individuals with OP were protecting their sense of self. When under the self-affirmation condition, there was no difference in aggression with regards to OP and HP. When given self-affirmations, one's sense of identity is not being threatened. When individuals with OP are given self-affirmations, they are less likely to lash out than when their identity is being threatened. The authors argue that by giving self-affirmations, coaches may be able to reduce aggression in OP athletes (Donahue et al., 2009).

Research has explored the relationship between passion and cohesion (i.e., social, task; Paradis, Martin, & Carron, 2012). The researchers hypothesized that harmonious passion would be positively correlated with both social and task cohesion. They believed that OP would be positively correlated with task cohesion but negatively correlated with social cohesion. The authors surveyed 370 kinesiology students who were involved in competitive versus recreational sports. The results supported the first hypothesis for HP, but the second hypothesis for OP was not supported. For OP, there was a slight positive correlation with both task and social cohesion. The authors argued that for the obsessively passionate athletes, the team is important for them to achieve their goal, thus

providing evidence that both types of passion may be important for cohesion (Paradis et al., 2012).

Another study looked at the relationship between passion and cohesion and found contradictory evidence. Philippe, Lafreniere, Paquet, and Hauw (2014) explored team cohesiveness and passion in ski mountaineering. The results indicated that HP was positively associated with team cohesion and high relationship satisfaction. Obsessive passion was negatively associated with team cohesion and positively correlated with interpersonal conflict with teammates. This study contradicts Paradis et al. (2012), who found that for OP, there was a slight positive correlation with both task and social cohesion. Combining the finding from these two studies, HP is positively correlated with task cohesion, social cohesion, and relationship satisfaction, whereas for OP there is contradictory evidence whether it is positively or negative correlated to cohesion (Paradis et al., 2012; Philippe et al., 2014).

In sum, HP was positively correlated with social cohesion, task cohesion, and relationship satisfaction, whereas OP was positively correlated with aggression towards others (Donahue et al., 2009; Philippe et al., 2014). There was contradictory evidence whether OP was positively or negatively correlated to cohesion (Paradis et al., 2012; Philippe et al., 2014). These studies combine to indicate that passion might share an important relationship with interpersonal variables (i.e., aggression, cohesion, relationship satisfaction) in the sport context. It has been shown that there are positive and negative implications for passion in the sport setting in athletes. However, coaches are an integral part of the sport domain; therefore, it is important to understand how passion operates within these individuals too.

Passion in Coaches. It is important to understand how passion influences coaches. Carpentier and Mageau (2014) explored how coaches' passion affected their beliefs about player's motivation and how this affected the change-oriented feedback they gave their athletes. The results indicated that coaches who reported more OP gave more change-oriented feedback, but this feedback was of low quality (i.e., low autonomy supportive). Athletes who were perceived as more motivated by their coaches received more change-oriented feedback than those perceived as less motivated. This research provides further support for the notion that passion in coaches may influence the quality of feedback athletes receive from their coaches (Carpentier & Mageau, 2014).

Lafreniere, Jowett, Vallerand, Gonahue, and Lorimer (2008) were interested in the role passion played in the coach-athlete dyad. Their first study focused on the relationship from the athlete's perspective. The researchers found that, for college athletes, HP in coaches positively predicted quality relationships. Obsessive passion was not related to relationships with coaches. In study two, the researchers were interested in the same research question except they explored it from the coach's point of view. The results were similar to study one where HP predicted quality athlete-coach relationships and OP did not relate. The researchers also found that positive emotions played a mediating role between HP and the quality of the relationship. Additionally, they found a relationship between HP and a higher subjective well-being in coaches. Overall, the results indicated that HP was associated with higher quality relationships between athletes and coaches (Lafreniere et al., 2008).

Lafreniere, Jowett, Vallerand, and Carbonneau (2011) expanded on the work of Lafreniere et al. (2008) to investigate the role coaches' passion for coaching plays in

interpersonal relationships. The results showed that players who had coaches with HP believed they had higher quality relationships. The authors argued this might be because the coaches with HP are expressing autonomy supportive behaviors. The results also indicated that OP positively predicted controlling behaviors towards athletes, but these behaviors did not show a significant effect on the coach-athlete relationship. The authors argue that athletes may expect coaches to be controlling; therefore, they do not allow it to affect their interpersonal relationship. An additional finding showed that higher quality coach-athlete relationships lead to higher athlete happiness. Finally, coaches' HP was positively related to subjective well-being (Lafreniere et al., 2011). Overall, HP was related to higher quality coach-athlete relationships.

Jowett, Lafreniere, and Vallerand (2012) also examined the role of passion in the coach-athlete dyad. Specifically, the researchers were examining the relationship between passion, satisfaction, and interpersonal conflict between coaches and athletes. The authors used a dyadic approach assessing both coaches and their players. The results indicated that HP positively revealed more satisfying relationships and was negatively related to interpersonal conflict. Obsessive passion was related to interpersonal conflict in both athletes and coaches. Obsessive passion was negatively related to relationship satisfaction, but for coaches only; OP was not related to relationship satisfaction for athletes. Coaches' OP positively predicted athletes' perceptions of interpersonal conflict and negatively predicted athlete's relationship satisfaction. The results indicated that HP and OP could have positive and negative associations, respectively, in interpersonal relationships in the coach-athlete dyad. Specifically, coaches' types of passion can

directly influences athletes' and their own perceptions of interpersonal relationships (Jowett et al., 2012).

Conclusions for Passion

Passion for an activity occurs when an individual has a strong inclination towards it, loves it, and invests time and energy into it (Vallerand et al., 2003). The dualistic model of passion proposed by Vallerand et al. (2003) encompasses harmonious and obsessive passion. The two are similar in that the person loves the activity and views the activity as import to their self-identity, however they also differ in conceptual ways. Harmonious passion is characterized by free engagement for the activity, whereas OP is characterized by rigid persistence for the activity. With HP, the activity does not cause conflict with other aspects of one's life, whereas with OP there is conflict with other aspects of one's life. Harmonious passion leads to positive affect, whereas OP might lead to negative affect after task engagement (Vallerand et al., 2003).

Passion has been explored in the sports setting; however, most research has focused from the perspective of the athlete. Additionally, research has focused mostly on intrapersonal outcomes including the relationship between passion and persistence, affect, personality, burnout, coping strategies, anxiety, injury susceptibility, and performance attainment (Curran et al., 2013; Martin & Horn, 2013; Vallerand et al., 2003; Vallerand et al., 2006; Vallerand et al., 2008; Verner-Fillion et al., 2014). Research exploring interpersonal outcomes including aggression, cohesion, and relationship satisfaction, has found that obsessive and harmonious passion can influence individual's interpersonal outcomes in differing ways (Donahue et al., 2009; Paradis et al., 2012; Philippe et al., 2014). Overall, previous findings provide evidence that HP and OP

influence intrapersonal and interpersonal outcomes in athletes in both positive and negative ways. It is unclear whether coaches are also affected in the same way as athletes.

Coaches are a critical part of the sports domain. Evidence exists showing that passion has a relationship to interpersonal relationships in the sport context. Such that, passion influences coaches' change oriented feedback towards their players (Carpentier & Mageau, 2014) and the quality of the relationship between the coach-athlete dyad (Jowett et al., 2012; Lafreniere et al., 2008). Therefore, it is important to further explore passion as a predictor of the coach-athlete relationship along with other variables.

Perfectionism

Perfectionism is commonly defined as striving for flawlessness and setting of excessively high standards accompanied by tendencies for “overly critical evaluations of one’s behavior” (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). Early research viewed perfectionism as a maladaptive or negative construct (Slade & Owens, 1998; Slaney & Ashby, 1996). This may be due to the context in which it was studied (e.g., treatment programs for anxiety, bulimia, and other psychological disorders; Slaney & Ashby, 1996). These studies used a one-dimensional measure of perfectionism that captured typically maladaptive behavior (Stoeber & Otto, 2006). As the conceptual work on perfectionism progressed, a multi-dimensional perspective of the construct was developed (Slade & Owens, 1998).

The history of perfectionism as a multidimensional construct is convoluted; a variety of conceptual definitions and conceptualizations of perfectionism have developed in the literature. Hamacheck (1978) was the first researcher to argue for the multi-dimensional nature of perfectionism, with two forms (i.e., normal, neurotic).

Accordingly, Slade and Dewey (1986) followed up Hamacheck (1978) and termed two forms of perfectionism: satisfied and dissatisfied. Frost et al. (1990) conceptualized a model of perfectionism comprising of six facets (i.e., personal standards, organization, concern over mistakes, parental criticism/expectations, and doubts about actions). Hewitt and Flett (1991) termed three facets of perfectionism as self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism. Finally, Slade and Owens (1998) introduced the dual process model which includes two dimensions of perfectionism: positive or healthy perfectionism (i.e., striving for the pursuit of success, excellence, approval) and negative or maladaptive perfectionism (i.e., striving for the avoidance of failure, imperfection, and mediocrity; Slade & Owens, 1998). The authors argued that the dualistic model of perfectionism has practical implications in the sport setting (Slade & Owens, 1998).

Frost et al. (1990) and Hewitt and Flett (1991) were the first authors to develop scales that explored perfectionism as a multidimensional construct. Frost et al. (1990) described six facets of perfectionism, as described above. Contrastingly, Hewitt and Flett (1991) suggested three facets of perfectionism: self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism. Although these two studies used different terms for facets of perfectionism they share some similarities (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). The authors found that two groupings of perfectionism emerged from all of the facets combined (i.e., perfectionistic strivings, perfectionistic concerns). The first grouping was termed perfectionistic strivings that included personal standards, organization, self-oriented perfectionism, and other-oriented perfectionism (Frost et al., 1993). The second grouping was termed maladaptive

evaluation concerns (perfectionistic concerns) and included concern over mistakes, doubts about actions, socially prescribed perfectionism, parental expectations, and parental criticism (Frost et al., 1993). The authors found that perfectionistic strivings were related to higher levels of positive affect, whereas perfectionistic concerns were related to higher levels of negative affect (Frost et al., 1993). Thus, these authors combine to provide support for the multidimensionality and contrasting positive and negative outcomes of perfectionism (Hewitt & Flett, 1991; Frost et al., 1990; Frost et al., 1993). Emerging out of these dimensions were models of perfectionism.

Models of Perfectionism

To date, perfectionism is considered a multidimensional construct consisting of adaptive and maladaptive characteristics. Perfectionism has been defined in several different ways, making it difficult to accurately conceptualize (Stoeber & Otto, 2006). Based on previous literature (Hewitt & Flett, 1991; Frost et al., 1990; Frost et al., 1993), researchers have recently adopted more complex approaches to understanding perfectionism. Researchers have explored several different facets of perfectionism (Hewitt & Flett, 1991; Frost et al., 1990), combining these facets into two dimensions of perfectionism (i.e., perfectionistic strivings, perfectionistic concerns; Frost et al., 1993). Researchers have either followed a dimensional based approach or a group-based approach in the exploration of perfectionism. For the dimensional based approach, different facets of perfectionism are combined into two dimensions called perfectionistic strivings and perfectionistic concerns. For the group-based approach, the different dimensions of perfectionism (i.e., perfectionistic strivings, perfectionistic concerns) are combined into groupings called healthy or adaptive, unhealthy or maladaptive, and non-

perfectionism. In sum, perfectionism research is convoluted, but two major models for exploring group-based perfectionism have emerged: the 2 x 2 model and the tripartite model.

2 x 2 Model of Perfectionism. Gaudreau and Thompson (2010) proposed the 2 x 2 model encompassing two dimensions of perfectionism: evaluative concerns perfectionism (ECP) and personal standards perfectionism (PSP). Evaluative concerns perfectionism was described as socially prescribed perfectionism (e.g., perceived pressure for perfection from others). Personal standards perfectionism was described as self-oriented perfectionism (e.g., setting high standards for oneself). The 2 x 2 model of dispositional perfectionism recognizes four perfectionistic profiles: personal standards perfectionism (high PSP, low ECP), mixed perfectionists (high PSP, high ECP), non-perfectionists (low PSP, low ECP) and pure evaluative concerns perfectionists (high ECP, low PSP; Gaudreau & Thompson, 2010). It is also important to note that the 2 x 2 model is considered a dispositional measure of perfectionism.

Tripartite Model of Perfectionism. The tripartite model introduces three groupings of perfectionism: healthy (adaptive), unhealthy (maladaptive), and non-perfectionists (Stober & Otto, 2006; Tashman, Tenebaum, & Eklund, 2010). Individuals in each grouping are categorized based on their self-perceptions of perfectionistic strivings and perfectionistic concerns (Stoeber & Becker, 2008; Stober & Otto, 2006). Perfectionistic strivings includes facets of personal standards and self-oriented perfectionism. Perfectionistic concerns includes facets of concerns over mistakes, doubts about actions, and socially prescribed perfectionism (Stober & Otto, 2006). Healthy perfectionism includes high levels of perfectionistic strivings (e.g., setting of excessively high standards

for personal performance) and low levels of perfectionistic concerns (e.g., not concerned with what others think about one's performance). Unhealthy perfectionism includes high levels of perfectionistic strivings and high levels of perfectionistic concerns (e.g., setting of unrealistic socially-prescribed performance standards). Finally, non-perfectionism includes low levels of perfectionistic strivings (e.g., does not set excessively high standards for personal performance; Stoeber & Otto, 2006). The tripartite model combines a dimensional (i.e., perfectionistic strivings, perfectionistic concerns) and group based approach (i.e., healthy, unhealthy, non-perfectionism) to understand perfectionism under one theoretical framework.

Perfectionism in Athletes. In a literature review on the facets of perfectionism, Stoeber and Otto (2006) concluded that healthy perfectionists are associated with more positive characteristics than unhealthy perfectionists and non-perfectionists. Stoeber (2011) conducted a literature review on perfectionism in sport. Perfectionistic strivings were positively associated with self-confidence, hope of success, approach goal orientations, and performance in training and competition (Stoeber, 2011). Stoeber and Stoeber (2009) found that athletes who rated themselves as perfectionistic in sport were more likely to have higher life satisfaction. On the contrary, perfectionistic concerns were positively associated with competitive anxiety, fear of failure, and avoidance orientations (Stoeber, 2011). These literature reviews combine to show that perfectionism may have positive and negative contributions in certain domains, such as sport.

More specifically, perfectionism has only been studied at the intrapersonal level (e.g. anxiety, fear of failure, motivation, affective states) in athletes (Crocker, Gaudreau, Mosewich, & Kljajic, 2014; Gucciardi Mahoney, Jalleh, Donovan, & Parkes, 2012;

Martinent & Ferrand, 2006; Quested, Cumming, & Duda, 2014). Particularly, Crocker et al. (2014) were interested in predicting cognitive appraisal, coping, and affective states associated with the stress process in competition. Athletes completed the Sport-MPS-2 (Gotwals & Dunn, 2009) 24 hours after participating sport competition so that the stressor of competition would still be salient. Overall, pure PSP (adaptive perfectionism) was associated with better outcomes when compared to pure ECP (maladaptive perfectionism). Other studies show similar results, such that there are both positive and negative consequences of perfectionism.

Quested et al. (2014) examined whether mixed perfectionism would be more adaptive than pure evaluative concerns perfectionism as claimed by Gaudreau and Thompson (2010). The researchers were also interested in the differences in intrinsic motivation, fear of failure, body dissatisfaction and self-esteem comparing the four perfectionism profiles in 194 dancers. Contrary to Gaudreau and Thompson (2010), the study found that dancers who had evaluative concerns regardless of levels of pure PSP were more likely to have lower motivation and self-evaluations. This study also found support for the notion that athletes with high personal standards (adaptive) and low concerns with evaluation (maladaptive) are likely to have positive experiences. Mixed perfectionists and high ECP dancers did not differ in their risk of maladaptive striving (Quested et al., 2014). In addition, Dunn and colleagues (2014) found that athletes grouped into the perfectionistic profiles differed in their use of coping strategies in stressful situations (e.g., performance slump). Specifically, the authors found that healthy perfectionists increased effort and used active coping significantly more frequently than

unhealthy perfectionists. Unhealthy perfectionists used behavioral disengagement significantly more than healthy perfectionists (Dunn et al., 2014).

Martinent and Ferrand (2006) examined perfectionistic profiles among French regional-level athletes across various team and individual sports. The authors developed specific perfectionistic profiles in the sport domain. A cluster analysis of all three questionnaires (i.e., Sport-MPS, Hewitt-Multidimensional Perfectionism Scale, Cognitive State Anxiety Inventory-2) found support for the researcher's notion of perfectionistic profiles that they defined as adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. Athletes with maladaptive perfectionism had higher scores on cognitive anxiety than those with adaptive perfectionism, showing the potential negative impact of maladaptive perfectionism. For future research, Martinent and Ferrand (2006) emphasized the importance of looking at perfectionism as multiple profiles instead of one universal construct in the sporting context.

Gucciardi and colleagues (2012) found that maladaptive perfectionists reported higher levels of mastery avoidance, performance avoidance, and fear of failure than adaptive perfectionists (Gucciardi et al., 2012). Adaptive perfectionists reported higher levels of mastery approach goals compared to maladaptive perfectionists (Gucciardi et al., 2012). In addition, Gotwals and Spencer-Cavaliere (2014) identified profiles of healthy or unhealthy perfectionists. Three themes emerged across both healthy and unhealthy perfectionists: personal expectations, coping with challenge, and the role of others. Healthy perfectionists had reasonable goals, a positive outlook and viewed coaches as motivational and teammates as supportive. Whereas unhealthy perfectionists

had negative expectations, difficulty recovering, a lack of control, positive and negative views of coaches and saw teammates as a source of support and pressure.

These studies combine to demonstrate that perfectionism affects athletes at the intrapersonal level. Specifically, perfectionism has both positive and negative relationships with cognitive anxiety, motivational orientation, perspectives of achievement, and coping strategies in stressful situations (Dunn et al., 2014; Gotwals & Spencer-Cavaliere, 2014; Gucciardi et al., 2012; Martinent & Ferrand, 2006). Out of these studies, only one explored perfectionism and its relationship to an interpersonal outcome. Gotwals and Spencer-Cavaliere (2014) found that healthy perfectionists viewed coaches as motivational and teammates as supportive, whereas unhealthy perfectionists had both positive and negative views of coaches and saw teammates as a source of support and pressure. In conclusion, researchers have repeatedly shown that perfectionism affects athletes at the interpersonal level, however there is minimal research on perfectionism and intrapersonal outcomes in athletes. The complexities associated with perfectionism reveal the potential for other members of the evaluative sport domain to differ in perfectionistic profiles, particularly coaches.

Perfectionism in Coaches. Coaches are a pivotal part of the sport setting. In the sport context, they are constantly being evaluated externally (e.g., sport organizations) and evaluating themselves internally (e.g., self-perceived evaluation). Despite the great evaluative pressure, research on perfectionism in coaching is not extensive. Tashman, Tenenbaum, and Eklund (2010) assessed the relationship between adaptive and maladaptive perfectionism, perceived stress, and burnout in coaches. Several studies have highlighted the relationships between these two variables in athletes (Gustafsson, Hill,

Stenling, & Wagnsson, 2016; Madigan, Stoeber, & Passfield, 2015), but there is a lack of research examining these relationships in sport coaches. Tashman and colleague's study included 177 Florida collegiate head and assistant coaches at all divisions (Tashman et al., 2010). Results indicated that maladaptive perfectionism in coaches was significantly related to burnout. The findings show support for using the tripartite model in exploring perfectionism in coaches as well as the relationship between perfectionism and burnout (Tashman et al., 2010). Several studies have provided evidence that burnout is pervasive in coaches (Hardin, Zakrajsek, & Gaston, 2015; Vealey, Udry, Zimmerman, & Soliday, 1992) and this study supports this notion that maladaptive perfectionism is a contributor to burnout among coaches (Tashman et al., 2010).

Hill and Davis (2014) aimed to assess how different perfectionistic profiles in the coaching setting affected emotion regulation. The authors found that pure personal standards perfectionism (adaptive perfectionism) was associated with the highest ability of emotion regulation. Pure evaluative concerns perfectionism (maladaptive perfectionism) was associated with the lowest ability of emotion regulation. Surprisingly, the authors found that mixed perfectionism was associated with the highest levels of expressive suppression. This provides contrasting evidence, such that personal standards perfectionism might intensify perfectionistic concerns. It appears that both adaptive and maladaptive perfectionism are associated with emotion regulation in coaches (Hill & Davis, 2014).

Although the research exploring perfectionism in sport coaches has been limited, these studies provide evidence for the importance of exploring this topic. Specifically, the maladaptive nature of perfectionism may be contributing to burnout and lower levels of

emotional regulation compared to adaptive perfectionism (Hill & Davis, 2014; Tashman et al., 2010). It is important to note that these studies only explored perfectionism intrapersonal outcomes (i.e., burnout, emotional regulation). To date, there have been no studies on perfectionism and interpersonal outcomes (e.g., coach-athlete relationship) in sport coaches.

Conclusions for Perfectionism

There is limited and unclear research on how to best study perfectionism across different domains. Two models for perfectionism have emerged: 2 x 2 and tripartite (Stoeber, 2014). Stoeber (2014) reviewed both the 2 x 2 model and the tripartite model in the sports setting. The author defends support for both models of perfectionism and stressed that future areas of research is needed between the two to distinguish the one that works best in the sports domain, but emphasized that he believes they are both viable options (Stoeber, 2014). Perfectionism has mostly been explored in athletes and explicitly for intrapersonal outcomes (Stoeber, 2011).

In athletes, maladaptive perfectionism has been associated with negative expectations, difficulty recovering, a lack of control, fear of failure, and cognitive anxiety, whereas adaptive perfectionism has been associated with positive expectations, adaptive coping strategies and positive affective states (Dunn et al. 2014; Gotwals & Spencer-Cavaliere, 2014; Gucciardi et al. 2012; Martinent & Ferrand, 2006). Similarly, maladaptive perfectionism may be contributing to burnout and lower levels of emotional regulation in coaches compared to adaptive perfectionism (Hill & Davis, 2014; Tashman et al., 2010).

Overall, perfectionism has been repeatedly shown to have positive and negative influences in the sport domain, specifically on athletes (Dunn et al., 2014; Gotwals & Spencer-Cavaliere, 2014; Gucciardi et al., 2012; Martinent & Ferrand, 2006). Coaches are a part of the sport domain; therefore, it is important to understand how perfectionism operates within these individuals. While we have some initial evidence of perfectionism in sport coaches, many research questions remain unanswered. In conclusion, perfectionism is a “double-edged sword” that may be beneficial, but also aversive (Stoeber, 2014) and it is important to ask further questions with regard to interpersonal outcomes (e.g., coach-athlete relationship).

Leadership

Leadership can be defined as coaches’ behavioral aspects that influence team member’s accomplishments (Chelladurai & Riemer, 1998). The Multidimensional Model of Leadership (MML) by Chelladurai is a proposed model for leadership in sport. Leadership in the sporting context is conceptualized as a function of the preferred and perceived leader behavior in a situational context (Chelladurai & Saleh, 1980). Therefore, the MML aimed to conceptualize the congruence of three behavior states (i.e., required, preferred, and actual), while also considering antecedent characteristics of the leader, situation, and members of a sport organization for positive group outcomes (Chelladurai, 1990).

Chelladurai and Saleh (1980) created the Leadership Scale for Sports (LSS) to examine the MML. Sport as an organization is unique, which is why the LSS derived from other related leadership instruments. More so, the uniqueness entails a specific distinction that differentiates sport from other organizational settings. For example, the

proportion of training to performing is drastically higher for sport compared to a business organization (Chelladurai & Saleh, 1980). The five dimensions of the LSS include training and instruction (e.g., development of athlete's skills, tactics, and performance), democratic (e.g., encouraging athletes to make their own decisions for goals, training objectives, and game strategies), autocratic (e.g., authority of decision making), social support (e.g., relationship with athletes outside of practice), and positive feedback (e.g., rewarding and praising athletes for good performance; Chelladurai & Saleh, 1980). These dimensions are formulated on the congruence between preferred and actual behavior in relation to the situational context (Chelladurai & Saleh, 1980).

Leadership in Athletes and Coaches

Various antecedents can influence outcomes in the sport setting (e.g., passion, perfectionism, leadership behaviors). Previous research suggests that leadership is multidimensional (Chelladurai & Saleh, 1980). Yet, leadership behaviors have mostly been studied from the view of athlete outcomes (e.g., cohesion, satisfaction, motivation; Amorose & Horn, 2000; Hyun-Duck & Cruz, 2016). In a meta-analysis, authors found a moderate relationship between leadership behaviors and cohesion and a large relationship between leadership behaviors and satisfaction (Hyun-Duck & Cruz, 2016). Training and instruction was the highest contributor for both relationships (Hyun-Duck & Cruz, 2016). Perceived coaching behaviors were related to athlete's intrinsic motivation (Amorose & Horn, 2000). Athletes with higher intrinsic motivation perceived their coaches leadership behaviors to be high in training & instruction, democratic behavior and low in autocratic behavior (Amorose & Horn, 2000).

Other literature has supported the notion of coach's leadership behaviors affecting athlete outcomes. In one study, training and instruction, social support and democratic behavior were related to athlete satisfaction (Moen, Hoigaard, & Peters, 2014; Weiss & Friedrichs, 1986). The most preferred leadership behavior by athletes from their coaches was training and instruction followed by positive feedback. The least preferred behavior was autocratic behavior (Surujlal & Dhurup, 2012). From these studies it is apparent that coaches' training and instruction, democratic behaviors, social support, and positive feedback may play productive roles for their athletes (Amorose & Horn, 2000; Hyun-Duck & Cruz, 2016; Weiss & Friedrichs, 1986). However, coach's autocratic behaviors may play a maladaptive role for athlete outcomes (Surujlal & Dhurup, 2012).

While most of the literature has looked at leadership behavior from the viewpoint of athlete outcomes, some studies have explored the viewpoint of coaches. Coaches described that knowing what leadership behaviors to use depending on the situation they faced as critical to creating a successful a program at a university (Vallee & Bloom, 2005). In another study, coaches perceived themselves as using training and instruction, democratic, and social support behaviors more than autocratic behaviors (Aristotelis, Kaloyan, & Evangelos, 2013). While coaches are aware that leadership is important (Vallee and Bloom, 2005), there has been a minimal focus on leadership with regard to the coach-athlete relationship.

It is important to consider is how leadership behaviors affect the coach-athlete relationship, since research suggests that the coach-athlete relationship affects athlete outcomes (e.g., performance, cohesion, satisfaction; Cronin & Allen, 2015; Gould et al., 2002; Jowett, 2007; Norman & Jamie, 2013). Hollembeak and Amorose (2005) found

that positive feedback improved the coach-athlete relationship; social support had no effect, and autocratic behaviors decreased the coach-athlete relationship. Another study highlights the importance of a coach-athlete relationship filled with elements of reciprocity, trust, and a helping nature enabled by coach's democratic behavior, social support, and positive feedback (Moen et al., 2014). Horne and Carron (1985) explored the compatibility in the coach-athlete relationship finding that training and instruction had the highest relationship to athlete satisfaction, followed by positive feedback and social support; whereas autocratic behaviors indicated an incompatible coach-athlete dyad (Horne & Carron, 1985). From these studies it is apparent that training and instruction, democratic behaviors, social support, and positive feedback may play productive roles for the coach-athlete relationship (Hollembeak & Amorose, 2005; Moen et al., 2014). Yet, coach's autocratic behaviors may play a maladaptive role for the coach-athlete relationship (Horne & Carron, 1985). Leadership along with other variables (i.e., passion, perfectionism) should be explored further as predictors of the coach-athlete relationship.

Conclusions for Leadership

Leadership is a construct that is multidimensional in nature. The MML proposes the congruence of three behavior states (i.e., required, preferred, and actual) with the antecedent characteristics of the leader, situation, and members (Chelladurai, 1990). The LSS by Chelladurai and Saleh (1980) encompasses five leadership behaviors: training and instruction, social support, democratic behaviors, positive feedback, and autocratic behaviors. Leadership behaviors affect athlete outcomes (e.g., satisfaction, cohesion, motivation) and the coach-athlete relationship (Amorose & Horn, 2000; Horne & Carron,

1985; Hyun-Duck & Cruz, 2016; Weiss & Friedrichs, 1986). The nature of the relationship is dependent on the specific behavior being explored. Particularly, training and instruction, democratic behaviors, social support, and positive feedback may play productive roles for the coach-athlete relationship whereas coach's autocratic behaviors may play a maladaptive role for the coach-athlete relationship (Horne & Carron, 1985; Hollembeak & Amorose, 2005; Moen et al., 2014). Still, there is a need to explore this relationship further along with passion and perfectionism.

Conclusions

The coach-athlete relationship is a critical part of the sport domain. The coach-athlete relationship has been related to performance, team cohesion, satisfaction, shared effort towards a common goal, and social/identity development (Cronin & Allen, 2015; Gould et al., 2002; Jowett, 2007; Norman & Jamie, 2013). Previous literature suggests that this relationship affects athlete outcomes, yet there is no literature exploring various predictors of the coach-athlete relationship. Emphasis should be placed on understanding what personality characteristics (i.e., passion, perfectionism) and coaching behaviors (leadership behaviors), both positive and negative, may be predictors of the coach-athlete relationship.

Passion towards an activity occurs when an individual has a strong inclination towards an activity, finds it important, and invests time and energy into it (Vallerand et al., 2003). Previous literature has shown that perfectionism is a multidimensional construct with both positive and negative consequences (Stoeber & Otto, 2006). Leadership can be defined as coaches' behavioral aspects that influence team member's accomplishments (Chelladurai & Riemer, 1998). Leadership behaviors affect athlete

outcomes (e.g., satisfaction, cohesion, motivation) and the coach-athlete relationship (Amorose & Horn, 2000; Horne & Carron, 1985; Hyun-Duck & Cruz, 2016; Weiss & Friedrichs, 1986). The direction of the relationship depends on the dimension being examined. In particular, training and instruction, democratic behaviors, social support, and positive feedback may play productive roles for the coach-athlete relationship whereas coach's autocratic behaviors may play a maladaptive role for the coach-athlete relationship (Horne & Carron, 1985; Hollembeak & Amorose, 2005; Moen et al., 2014).

Coaches' relationships with their athletes are vital to the sporting domain. Yet much of sport psychology research has focused on intrapersonal outcomes versus interpersonal outcomes and outcomes of the relationship versus antecedents (Jowett & Ntoumanis, 2004). Therefore, the purpose of this study was to explore the interpersonal nature of the coach-athlete relationship and to explore passion, perfectionism, and leadership behaviors as predictors or antecedents of this relationship.

CHAPTER 3

PROPOSAL

METHODS

This chapter describes in detail the methodology of the study. The methods section is subdivided as follows: participants, procedures, measures, and data analyses.

Participants

A convenience sample of collegiate coaches will be recruited via email. In total, 2,500 coaches will be contacted. Participants will include at least 350 collegiate head and assistant coaches across all divisions of the National College Athletic Association (NCAA). The intended sample size will provide enough power to run complex multivariate statistics (e.g., multiple regression). All participants will complete an informed consent as part of the online survey (Appendix A).

Procedures

After receiving Institutional Review Board approval, coach contact information will be retrieved using a web search for college coaches. Coach contact information, specifically email, will be available on their school's website. Coaches will then be sent an email with a brief description of the study (see Appendix A for recruitment script) and a link to the survey. If coaches are interested they can completed the survey via Qualtrics. Qualtrics is an online platform for electronic data collection. The data collection will be anonymous and no personally identifiable data will be collected. The voluntary nature of the research will be emphasized making it clear that participants can withdraw or skip any questions at any time.

Measures

The survey will include the Passion Scale (Vallerand et al., 2003), the Sport-MSP-2 (Gotwals & Dunn, 2009), the Leadership Scale for Sports (Chelladurai & Saleh, 1980), and the Coach-Athlete Relationship Questionnaire (Jowett & Ntoumanis, 2004). The survey will also include basic demographic questions about gender identity, ethnic and racial background, sexual orientation, age, coaching status (i.e., head or assistant coach), sport coached, and so forth. See Appendix B for demographic questions.

The Passion Scale

The passion scale assesses passion towards an activity. Support for the use of the Passion Scale has been shown in several studies, including studies with athletes (Curran et al., 2013; Martin & Horn, 2013; Vallerand et al., 2003; Vallerand et al., 2006; Vallerand et al., 2008; Verner-Fillion et al., 2014) and coaches (Carpentier & Mageau, 2014; Lafreniere et al., 2008; Jowett et al., 2012). It is the only questionnaire to assess passion towards an activity (Vallerand et al., 2003).

The Passion Scale (Vallerand et al., 2003) consists of two components. One that distinguishes whether the individual is passionate or non-passionate for the activity and the other assesses two dimensions (i.e., harmonious, obsessive) of passion for the said activity. The scale consists of 16 items. Coaches will be asked to think about their coaching experiences and on a 7-point-likert type scale with anchor points of 1 = do not agree at all to 7 = very strongly agree and indicate the extent to which they value coaching, devote time and energy to it, and love it. In accordance with previous literature (Carpentier & Mageau 2014; Mageau et al., 2009; Vallerand & Houliort, 2003), coaches will be considered passionate when their mean score on the four passion criteria is

situated at the midpoint (4) or above. Only coaches meeting the score of 4 or higher will be considered “passionate coaches” and used for future analyses in the study. Although, it is not anticipated that many coaches will be considered as non-passionate towards coaching (Carpentier & Mageau 2014). This procedure will remove any confounding variability due to coaches being passionate or not.

The second portion of the Passion Scale consists of two six-item subscales assessing harmonious and obsessive passion (Vallerand et al., 2003). Coaches’ harmonious and obsessive passion will be assessed using an adapted version of the Passion Scale for the coaching domain (Carpentier & Mageau 2014; Lafreniere et al., 2008, 2011). In particular, a sample item for harmonious passion will be “Coaching allows me to live a variety of experiences.” A sample item for obsessive passion will be “I have difficulties controlling my urge to coach.” Participants will indicate the extent to which they agree with the statement on a 7-point-likert type scale ranging from 1 = do not agree at all to 7 = very strongly agree. Lafreniere et al. (2008) found internal reliability coefficients for both the harmonious (.83) and obsessive passion (.85) subscales in coaches. See Appendix C for the Passion Scale.

The Sport Multidimensional Perfectionism Scale 2 (Sport-MPS-2)

For perfectionism, it has been recommended to use sport-specific measures when exploring it in athletes. Perfectionism is considered to be domain-specific (Stoeber & Stoeber, 2009; Stoeber, 2011). Global or general measures of perfectionism (e.g., Hewitt-MPS; Hewitt & Flett, 1991) may not be able to capture the nature of perfectionism in the sport domain (Dunn, Craft, Dunn, & Gotwals, 2011; Dunn, Gotwals, & Dunn, 2005). For

these reasons, the Sport-MSP-2 was selected as it is domain-specific measure of perfectionism in coaches.

The Sport-MPS-2 (Gotwals & Dunn, 2009) is a domain specific measure of perfectionism in the sport setting that is based off the Frost Multidimensional Perfectionism Scale (F-MPS; Frost et al., 1990). It consists of 42 items on a 5-point-likert type scale with anchor points of 1 = strongly disagree to 5 = strongly agree. The instrument contains six-subscales, but for applicability reasons only four will be used. In particular, parental pressure (PPP) and coaches' criticism (PCP) were not included because they are not applicable to a coaching context. The original scale consists of 42 items, however since only four of the subscales will be used the scale will consist of 28 items. Personal Standards (PS) (e.g., eight items, *"I hate being less than the best at things in my sport"*), Concern Over Mistakes (COM) (e.g., eight items, *"If I fail in competition, I feel like a failure as a person"*), Doubts About Actions (DAA) (e.g., six items, *"I rarely feel that my training fully prepares me for competition"*), and Organization (Org) (e.g., six items, *"On the day of competition I have a routine that I try to follow"*) will be used. For the purpose of this study, the Sport-MPS-2 will be adapted to a coaching context. For example, the item *"Even if I fail slightly in competition, for me, it is as bad as being a complete failure"* will be reworded to *"Even if I fail slightly in coaching, for me, it is as bad as being a complete failure."* Prior research has indicated the Sport-MSP-2 as having adequate internal consistency ($\alpha > .70$) across all subscales (Gotwals & Dunn, 2009). See Appendix D for the Sport-MPS-2.

The Leadership Scale for Sports (LSS)

The LSS assesses perceived leadership behaviors from the perspective of both

athletes and coaches (Chelladurai & Saleh, 1980). It has been primarily used in athletes (e.g., Ardua & Marquez, 2007; Surujlal & Dhurup, 2012). It has also been used in sport coaches (Hollembeak & Amorose, 2005; Moen et al., 2014).

The LSS (Chelladurai & Saleh, 1980) is a 40-item scale that assesses five dimensions of leadership behavior. The coach version of the LSS prefaces each of the 40 items with “In coaching I...” The 40 items represent five dimensions: training and instruction (thirteen items; i.e., “*Explain to each athlete the techniques and tactics of sport*”), democratic behaviors (nine items; i.e., “*Get group approval on important matters before going ahead*”), autocratic behaviors (five items; i.e., “*Work relatively independent of the athletes*”), social support (eight items; “*Help the athletes with their personal problems*”), and positive feedback (five items; “*Give credit when credit is due*”). Each item will be assessed using a five-point Likert scale from 1 = never to 5 = always. The five response categories will be: always (100% of the time), often (75%), occasionally (50%), seldom (25%) and never (0%). Thus, higher scores on each dimension reflected a stronger perception of the use of that behavior. Test-retest reliability coefficients ranged from .71 to .82 for each subscale (Chelladurai & Saleh, 1980). See Appendix E for the LSS.

The Coach-Athlete Relationship Questionnaire (CART-Q)

The CART-Q assesses the coach-athlete interpersonal relationship. It has been primarily used from the perspective of athletes (e.g., Jowett, Lafreniere, & Vallerand, 2012; Jowett & Nezlek, 2011). Additionally, it has been proven as an adequate scale to assess the coach-athlete relationship from the perspective of coaches (Jowett & Chaundy, 2004; Jowett & Ntoumanis, 2004).

The CART-Q assesses the affective (i.e., closeness), cognitive (i.e., commitment) and behavioral (i.e., complementarity) aspects of the coach-athlete relationship. The direct perspective of the CART-Q (Jowett & Ntoumanis, 2004) consists of 11 items on a 7-point-likert type scale with anchor points of 1 = not-at-all to 7 = extremely. The CART-Q assesses three relational constructs: closeness (six items; “*I feel close to my athletes*”), commitment (four items; “*I feel committed to my athletes*”), and complementarity (four items; “*When I coach my athlete, I feel at ease*”). Jowett and Ntnoumnais (2004) found adequate internal reliability coefficients for all three subscales: commitment (.82), closeness (.89), and complementarity (.89). See Appendix F for the CART-Q.

Data Analyses

Participants will be removed from the study if they do not answer all questions. All categorical variables will be summarized in counts and percentages. All continuous variables will be summarized in means and standard deviations and then assessed for normality before parametric statistics are chosen. All variables will be checked for indication of normal distribution for parametric statistics (i.e., skewness < 2, kurtosis < 7).

To determine the predictability of passion, perfectionism, and leadership behaviors on the coach-athlete relationship, three multiple regression analyses will be conducted for each coach-athlete relationship dimension (i.e., closeness, commitment, and complementarity) using the entry method. All Variance Inflation Factors (VIF) will be checked to indicate that multicollinearity did not affect the results (< 2; Field, 2013). An alpha level of $p < .05$ was selected for all analyses.

PROPOSAL

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CHAPTER 4

RESEARCH MANUSCRIPT

Introduction

Sport is a multifaceted domain encompassing different people (e.g., athletes, coaches, spectators) and outcomes (e.g., intrapersonal, interpersonal). Iso-Ahola (1995) proposed a framework for athletic performance encompassing both intrapersonal (e.g., affect, personality) and interpersonal outcomes (e.g., coach-athlete relationship).

Literature supports the notion that sport is carried out in social contexts, yet most of sport psychology research has focused on intrapersonal outcomes (e.g., motivation, anxiety; Jowett & Ntoumanis, 2004). This can be attributed to westernized ideologies that stress the importance of self-development over social development (Guisinger & Blatt, 1994). However, the self should be viewed as a social entity that is influenced by the relationships we share (Jowett & Ntoumanis, 2004). Coaches are an integral part of the sporting domain. Jowett and Cockerill (2002) argued that the relationship between coaches and players have an impact on athlete's physical and psychosocial development. Therefore, importance should be placed on understanding this relationship further.

The quality of the coach-athlete relationship includes trust, respect, commitment, and cooperation (Jowett & Cockerill, 2003). Jowett and colleagues proposed a framework for the coach-athlete relationship (Jowett & Cockerill, 2003; Jowett & Meek, 2000). Coaches and athletes' affective (e.g., trust, mutual respect, interpersonal liking), cognitive (e.g., intention to maintain relationship), and behavioral (e.g., cooperation) interdependence are reflected into the relationship. Three dimensions were proposed (i.e.,

closeness, commitment, and complementarity) to describe the coaches and athlete's feelings, cognitions, and behaviors (see Jowett & Cockerill, 2002).

The coach-athlete relationship can play a crucial role in athlete success and failure, both in and out of the sporting context (Jowett & Cockerill, 2002). In athletes, the coach-athlete relationship has been related to performance, team cohesion, satisfaction, shared effort towards a common goal, and social/identity development (Cronin & Allen, 2015; Gould et al., 2002; Jowett, 2007; Norman & Jamie, 2013). A positive coach-athlete relationship has been associated with adaptive outcomes (e.g., performance, cohesion, satisfaction; Cronin & Allen, 2015; Jowett, 2007). However, research into what variables predict the coach-athlete relationship is sparse. Emphasis should be placed on understanding what variables, both positive and negative, may be predictors of the coach-athlete relationship. For this study, two personality characteristics (i.e., passion, perfectionism) and coaching behaviors (i.e., leadership behaviors) were explored as predictors of the coach-athlete relationship.

Passion towards an activity occurs when an individual has a strong inclination towards an activity, finds it important, and invests time and energy into it (Vallerand et al., 2003). According to this definition, Vallerand and colleagues (2003) developed the dualistic model of passion. It encompasses two facets of passion: harmonious and obsessive. The two are differentiated by how the individuals internalizes the activity into their core self or identity. Harmonious passion (HP) arises when there is an autonomous internalization of the activity, whereas obsessive passion (OP) arises when there is a controlled internalization of the activity. A person with HP is able to freely engage in the activity without feeling overly compelled to participate, whereas a person with OP enjoys

the activity, but may feel compelled to engaged (Vallerand et al., 2003). Overall, individuals with HP for an activity are able to control the activity, whereas individuals with OP may let the activity control them.

Passion has been explored in athletes and sport coaches. In athletes, HP and OP are related to intrapersonal (e.g., affect, coping strategies, burnout, and anxiety; Curran et al., 2013; Martin & Horn, 2013; Vallerand et al., 2003; Vallerand et al., 2006; Vallerand et al., 2008; Verner-Fillion et al., 2014) and interpersonal outcomes (e.g., aggression towards others, cohesion, relationship satisfaction; Donahue et al., 2009; Paradis et al., 2012; Philippe et al., 2014) in both adaptive and maladaptive ways. For example, HP was found to be related to positive affect, approach-oriented coping strategies, less anxiety, and ideal for performance attainment, whereas OP was found to be related to negative affect, burnout, avoidance-oriented coping strategies, and anxiety (Curran et al., 2013; Martin & Horn, 2013; Vallerand et al., 2003; Vallerand et al., 2006; Vallerand et al., 2008; Verner-Fillion et al., 2014). This literature indicates that passion influences athlete outcomes and the coaching literature suggests the same.

Passion has also been shown to be prevalent in coaches. Passion influences coaches' change oriented feedback towards their players and the quality of relationship between the coach-athlete dyad (Carpentier & Mageau, 2014; Jowett et al., 2012; Lafreniere et al., 2008, Lafreniere et al., 2011). Specifically, HP was positively related to more satisfying relationships, negatively related to interpersonal conflict, and positively predicted autonomy-supportive behaviors towards athletes. Obsessive passion was unrelated to relationship satisfaction, positively related to interpersonal conflict, and predicted controlling behaviors towards athletes (Jowett et al., 2012; Lafreniere et al.,

2008; Lafreniere et al., 2011). In addition, higher quality coach-athlete relationships were related to higher athlete happiness (Lafreniere et al., 2011). There is evidence that passion may influence the coach-athlete relationship, however it is unclear what other variables may contribute to this relationship in addition to passion.

Perfectionism can be defined as striving for flawlessness and setting of excessively high standards accompanied by tendencies for critical evaluations of one's behavior (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1991). The history of perfectionism research is complex, however researchers can now agree on the multi-dimensional perspective of perfectionism encompassing a group or facet based approach (Stoeber & Otto, 2006). Different terms and models have been proposed, all of which encompass similar dimensions of perfectionism. For example, adaptive perfectionism has been termed as healthy or perfectionistic strivings and maladaptive perfectionism has been termed as unhealthy or perfectionistic concerns. These terms include similar dimensions of perfectionism; perfectionistic strivings (i.e., personal standards, organization, self-oriented perfectionism, and other-oriented perfectionism) and perfectionistic concerns (i.e., concern over mistakes, doubts about actions, socially prescribed perfectionism, parental expectations, and parental criticism; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). Literature supports the contrasting positive (i.e., perfectionistic strivings, healthy, adaptive) and negative (i.e., perfectionistic concerns, unhealthy, maladaptive) outcomes of perfectionism (Frost et al., 1990; Frost et al., 1993; Hewitt & Flett, 1991). The literature also supports this notion in the sport setting (Stoeber, 2011).

In a meta-analysis on perfectionism in athletes, perfectionistic strivings were positively associated with self-confidence, hope of success, approach goal orientations, and performance in training and competition, whereas perfectionistic concerns were positively associated with competitive anxiety, fear of failure, and avoidance orientations (Stoeber, 2011). Most studies involving athletes have explored perfectionism with regards to intrapersonal outcomes, while few studies have explored perfectionism with regards to interpersonal outcomes. Gotwals and Spencer-Cavaliere (2014) found that healthy perfectionists viewed coaches as motivational and teammates as supportive, whereas unhealthy perfectionists had both positive and negative views of coaches and saw teammates as a source of support and pressure. It is apparent that perfectionism has both positive and negative effects regarding intrapersonal and interpersonal outcomes in athletes. However, athletes are not the only individuals that merit exploration in the sport domain.

There is limited research on perfectionism in coaches with most of it focusing on burnout and stress in coaches (Tashman et al., 2010). This research has shown the negative effects of perfectionism in coaches. Specifically, unhealthy or maladaptive perfectionism may be contributing to burnout and lower levels of emotional regulation compared to healthy or adaptive perfectionism (Hill & Davis, 2014; Tashman et al., 2010). Once again, previous literature has focused on perfectionism and intrapersonal outcomes in coaches (Stoeber, 2011). To date, there have been no studies on perfectionism and interpersonal outcomes in sport coaches. There is evidence that perfectionism exists in sport coaches, although there are questions that remain unanswered when considering the coach-athlete relationship.

Leadership, specifically in coaches, has received extensive research attention in sport psychology literature (Horn, 2008; Riemer, 2007). Leadership can be defined as coaches' behavioral aspects that influence team member's accomplishments (Chelladurai & Riemer, 1998). The Multidimensional Model of Leadership (MML) by Chelladurai was one of the first models for leadership in sport. This model emphasizes the harmonious interaction between the leader and group member's situational characteristics. The MML supports the congruence between three conditions of leader behaviors (i.e., required, preferred, and actual) for positive group outcomes. These conditions can be influenced by leader characteristics, member characteristics, and situational characteristics. Chelladurai and Saleh (1980) created the Leadership Scale for Sports to examine the MML. The LSS includes five dimensions: training and instruction (development of athlete's skills, tactics, and performance), democratic (encouraging athletes to make their own decisions for goals, training objectives, and game strategies), autocratic (authority of decision making), social support (relationship with athletes outside of practice), and positive feedback (rewarding and praising athletes for good performance; Chelladurai & Saleh, 1980).

Previous research suggests that leadership is multidimensional and various antecedents can influence outcomes in the sport setting. Leadership behaviors have mostly been studied from the view of athlete outcomes (e.g., cohesion, motivation, satisfaction). In a meta-analysis, Hyun-Duck and Colleagues (2016) found a moderate relationship between leadership behaviors and cohesion and a large relationship between leadership behaviors and satisfaction, with training and instruction being the highest contributor for both relationships. Along with cohesion, perceived coaching behaviors

were related to athletes' intrinsic motivation (Amorose & Horn, 2000). Athletes with higher intrinsic motivation perceived their coaches leadership behaviors to be high in training and instruction, democratic behavior, and low in autocratic behavior (Amorose & Horn, 2000). In addition, training and instruction, social support, and democratic behavior were related to athlete satisfaction (Moen, Hoigaard, & Peters, 2014; Weiss & Friedrichs, 1986). From these studies it is apparent that coaches' training and instruction, democratic behaviors, social support, and positive feedback may play productive roles for their athletes (Moen et al., 2014; Weiss & Friedrichs, 1986). However, coach's autocratic behaviors may play a maladaptive role for athletes (Amorose & Horn, 2000).

Another important factor to consider is how leadership behaviors affect the coach-athlete relationship. The most preferred leadership behavior by athletes from their coaches was training and instruction followed by positive feedback (Surujlal & Dhurup, 2012). The least preferred behavior was autocratic behavior (Surujlal & Dhurup, 2012). Hollembeak and Amorose (2005) found that positive feedback improves the coach-athlete relationship, social support has no effect, and autocratic behaviors decreases the coach-athlete relationship. Another study highlights the importance of a coach-athlete relationship filled with elements of reciprocity, trust, and a helping nature enabled by coaches' democratic behavior, social support, and positive feedback (Moen et al., 2014). Horne and Carron (1985) explored the compatibility in the coach-athlete relationship finding that training and instruction had the highest relationship to athlete satisfaction, followed by positive feedback and social support (Horne & Carron, 1985). Autocratic behaviors indicated an incompatible coach-athlete dyad (Horne & Carron, 1985). From these studies it is evident that training and instruction, democratic behaviors, social

support, and positive feedback may play productive roles for the coach-athlete relationship (Hollembeak & Amorose, 2005; Moen et al., 2014). However, coach's autocratic behaviors may play a maladaptive role for the coach-athlete relationship (Hollembeak & Amorose, 2005; Horne & Carron, 1985).

The importance of the quality of the coach-athlete relationship has received attention in the literature (Jowett & Cockerill, 2003). Jowett (2017) argues that the quality of the coach-athlete relationship is the best form of leadership, yet there have been few studies exploring leadership, passion, or perfectionism as predictors of this relationship. Two personality characteristics (i.e., passion, perfectionism) and coaching behaviors (i.e., leadership behaviors) have all been explored in the context of sport. Harmonious passion has been related to relationship satisfaction, whereas obsessive passion has been related to interpersonal conflict (Lafreniere et al., 2011). Perfectionistic strivings have been related to positive outcomes, whereas perfectionistic concerns have been related to negative outcomes (Stoeber, 2011). Training and instruction, democratic behaviors, social support, and positive feedback have been related to a productive coach-athlete relationship, whereas autocratic behaviors have been related to a maladaptive coach-athlete relationship (Horne & Carron, 1985; Moen et al., 2013). It is apparent that all three variables have a multi-directional relationship with the coach-athlete relationship depending on the dimension being looked at. For the sake of the coach-athlete relationship in the sport setting, is important that these directions be explored further.

It is clear that individually, passion, perfectionism, and leadership behaviors have been explored in coaches (Chelladurai & Riemer, 1998; Stoeber, 2003; Vallerand et al., 2003). Yet, to the author's knowledge, there is a lack of evidence examining how

passion, perfectionism, and leadership behaviors predict, either positively or negatively, the coach-athlete relationship. Therefore, the purpose of this study was to explore predictors of the coach-athlete relationship. More specifically, do passion, perfectionism and leadership predict the coach athlete relationship? It was hypothesized that HP, adaptive perfectionism (i.e., perfectionistic strivings, organization) and positive leadership behaviors (i.e., training and instruction, democratic, social support, positive feedback) would positively predict coach-athlete relationship; whereas maladaptive perfectionism (i.e., doubts about actions, concerns over mistakes) and autocratic leadership behaviors would negatively predict the coach-athlete relationship. Finally, since Lafreniere et al. (2008) found no relationship between OP and the coach-athlete relationship, it was hypothesized that OP would be unrelated to the coach-athlete relationship in this study.

Methods

Participants

A convenience sample of collegiate coaches was recruited via email. In total, 468 coaches started the survey. Prior to data analysis, missing data were deleted list wise ($n = 78$, 16.7%). The remaining sample consisted of 390 NCAA coaches. In total, 2,500 coaches were contacted, giving a completion rate of 15.6%. Participants identified as male ($n = 231$, 59.5%) and female ($n = 157$, 40.3%) with an average age of 38 ($M = 38.29$, $SD = 12.00$). On average, coaches had been coaching for approximately 13 years ($M = 12.81$, $SD = 9.99$) and represented all divisions of the NCAA: DI ($n = 158$, 40.5%), DII ($n = 105$, 26.9%), and DIII ($n = 127$, 32.6%). See Table 1 for a breakdown of demographics.

Table 1

Demographics of the Participants

Characteristics	<i>n</i>	%
Gender Identity		
Male	231	59.5
Female	157	40.3
Race/Ethnicity		
White	335	87.0
African American	13	3.4
Japanese	1	0.3
Korean	1	0.3
Hispanic/Latino	5	1.3
Mexican	5	1.3
American Indian	1	0.3
Multiracial	13	3.3
Prefer not to Say	8	2.1
Sexuality		
Heterosexual	341	88.1
Gay	5	1.3
Lesbian	30	7.8
Bisexual	5	1.3
Unsure/Prefer not to Say	6	1.6
Division		
DI	158	40.5
DII	105	26.9
DIII	127	32.6
Title		
Head Coach	211	54.1
Associate Head Coach	52	13.3
Assistant Coach	119	30.5
Graduate Assistant	8	2.1
Relationship Status		
Married	210	53.8
Long-Term Partnership	9	2.3
Engaged	14	3.6
In a Relationship	52	13.3
Single	101	25.9
Widowed	1	.3
Other	3	.8
Children		
Yes	176	45.1
No	213	54.6

Procedures

After receiving Institutional Review Board approval, coach contact information was retrieved using a web search for college coaches. Coach email addresses were largely available on collegiate websites. Coaches were then sent an email with a brief description of the study (see Appendix A for recruitment script) and a link to the survey. If coaches were interested they completed the survey via Qualtrics, an online platform for electronic data collection. The data collection was anonymous and no personally identifiable data were collected.

Measures

The Passion Scale. The Passion Scale (Vallerand et al., 2003) consists of two components. One that distinguishes whether the individual is passionate or non-passionate for the activity and the other assesses two dimensions (i.e., harmonious, obsessive). The scale consists of 16 items. Coaches were asked to think about their coaching experiences and on a 7-point-likert type scale with anchor points of 1 = do not agree at all to 7 = very strongly agree to indicate the extent to which they value coaching, devote time and energy to it, and love it. In accordance with previous literature (Carpentier & Mageau 2014; Mageau et al., 2009; Vallerand & Houliort, 2003), coaches were considered passionate when their mean score on the four passion criteria was situated at the midpoint (4) or above. Only coaches meeting the score of 4 or higher were considered “passionate coaches” and used for future analyses in the study. This procedure removed any confounding variability due to coaches being passionate or not. All dimensions showed sufficient internal consistencies (see Table 2).

The second portion of the Passion Scale consists of two six-item subscales assessing harmonious and obsessive passion (Vallerand et al., 2003). Coaches' harmonious and obsessive passion was assessed using an adapted version of the Passion Scale for the coaching domain (Carpentier & Mageau 2014; Lafreniere et al., 2008, 2011). In particular, a sample item for HP was "*Coaching allows me to live a variety of experiences.*" A sample item for OP was "*I have difficulties controlling my urge to coach.*" Participants indicated the extent to which they agree with the statement on a 7-point-likert type scale ranging from 1 = do not agree at all to 7 = very strongly agree. Lafreniere et al. (2008) found internal reliability coefficients for both the harmonious ($\alpha = .83$) and obsessive passion ($\alpha = .85$) subscales in coaches. All dimensions showed sufficient internal consistencies (see Table 2). See Appendix C for the Passion Scale.

The Sport Multidimensional Perfectionism Scale 2 (Sport-MPS-2). The Sport-MPS-2 (Gotwals & Dunn, 2009) is a domain specific measure of perfectionism in the sport setting that is based off the Frost Multidimensional Perfectionism Scale (F-MPS; Frost et al., 1990). It consists of 42 items on a 5-point-likert type scale with anchor points of 1 = strongly disagree to 5 = strongly agree. The instrument contains six-subscales, but for applicability reasons only four were used. Parental pressure (PPP) and coaches' criticism (PCP) were not included because they are not applicable to a coaching context. The original scale consists of 42 items, however since only four of the subscales were used the scale consisted of 28 items. Personal Standards (PS; e.g., eight items, "*I hate being less than the best at things in my sport*"), Concern Over Mistakes (COM) (e.g., eight items, "*If I fail in competition, I feel like a failure as a person*"), Doubts About Actions (DAA; e.g., six items, "*I rarely feel that my training fully prepares me for*

competition”), and Organization (Org; e.g., six items, “*On the day of competition I have a routine that I try to follow*”) were used. For the purpose of this study, the Sport-MPS-2 was adapted to a coaching context. For example, the item “Even if I fail slightly in competition, for me, it is as bad as being a complete failure” was reworded to “Even if I fail slightly in coaching, for me, it is as bad as being a complete failure.” Prior research has indicated the Sport-MPS-2 as having adequate internal consistencies ($\alpha > .70$) across all subscales (Gotwals & Dunn, 2009). All dimensions showed sufficient internal consistencies (see Table 2). See Appendix D for the Sport-MPS-2.

The Leadership Scale for Sports (LSS). The LSS (Chelladurai & Saleh, 1980) is a 40-item scale that assesses five dimensions of leadership behavior. The coach version of the LSS prefaces each of the 40 items with “In coaching I...” The 40 items represent five dimensions: training and instruction (thirteen items; e.g., “*Explain to each athlete the techniques and tactics of sport*”), democratic behaviors (nine items; e.g., “*Get group approval on important matters before going ahead*”), autocratic behaviors (five items; e.g., “*Work relatively independent of the athletes*”), social support (eight items; e.g., “*Help the athletes with their personal problems*”), and positive feedback (five items; e.g., “*Give credit when credit is due*”). Each item was assessed using a five-point Likert scale from 1 = never to 5 = always. The five response categories were: always (100% of the time), often (75%), occasionally (50%), seldom (25%) and never (0%). Thus, higher scores on each dimension reflected a stronger perception of the use of that behavior. Previous literature indicated test-retest reliability coefficients from a range of $\alpha = .71$ to $\alpha = .82$ for each subscale (Chelladurai & Saleh, 1980). All dimensions showed sufficient internal consistencies (see Table 2). See Appendix E for the LSS.

The Coach-Athlete Relationship Questionnaire (CART-Q). The CART-Q assesses the affective (i.e., closeness), cognitive (i.e., commitment) and behavioral (i.e., complementarity) aspects of the coach-athlete relationship. The direct perspective of the CART-Q (Jowett & Ntoumanis, 2004) consists of 11 items on a 7-point-Likert type scale with anchor points of 1 = Not-at-all to 7 = Extremely. The CART-Q assesses three relational constructs: closeness (six items; e.g., “*I feel close to my athletes*”), commitment (four items; e.g., “*I feel committed to my athletes*”), and complementarity (four items; e.g., “*When I coach my athlete, I feel at ease*”). Jowett and Ntnoumnais (2004) found adequate internal reliability coefficients for all three subscales: commitment ($\alpha = .82$), closeness ($\alpha = .89$), and complementarity ($\alpha = .89$). All dimensions showed sufficient internal consistencies (see Table 2). See appendix F for the CART-Q.

Data Analysis

All categorical variables were summarized in counts and percentages. All continuous variables were summarized in means and standard deviations and then assessed for normality before parametric statistics were chosen. All variables showed sufficient indication of normal distribution for parametric statistics (i.e., skewness < 2 , kurtosis < 7).

To determine the predictability of passion, perfectionism, and leadership behaviors on the coach-athlete relationship, three multiple regression analyses were conducted for each coach-athlete relationship dimension (i.e., closeness, commitment, and complementarity) using entry method. All Variance Inflation Factors (VIF) were below two, indicating that multi-collinearity did not affect the results (Field, 2013). An alpha level of $p < .05$ was selected for all analyses.

Results

Descriptive statistics (i.e., means, standard deviations, Pearson's correlation coefficients, and Cronbach's alphas) are reported in Table 2 for all variables. Multiple regressions were conducted for all three variables of the CART-Q (i.e., closeness, commitment, complementarity) to see the predictive power on all dimensions of passion (i.e., harmonious, obsessive), perfectionism (i.e., perfectionistic strivings, concerns over mistakes, doubts about actions, organization), and leadership behaviors (i.e., training and instruction, democratic, autocratic, social support, positive feedback).

The regression equation predicting closeness in the coach-athlete relationship was significant ($F_{(11,378)} = 21.36, p < .001$). Dimensions of passion, perfectionism, and leadership behaviors predicted 38.3% of the variance of closeness. The strongest negative predictor was the perfectionism domain of doubts about action ($\beta = -.25, p < .001$), followed by autocratic leadership behaviors ($\beta = -.23, p < .001$). The strongest positive predictor was social support leadership behaviors ($\beta = .17, p < .001$), followed by HP ($\beta = .16, p < .001$), training and instruction leadership behaviors ($\beta = .14, p < .01$), and OP ($\beta = .12, p = .01$). Perfectionistic strivings, concerns over mistakes, organization, democratic leadership behaviors, and positive feedback leadership behaviors were non-significant predictors of closeness for the coach-athlete relationship. Results from this regression model can be found in Table 3.

Table 2

Means, Standard Deviations, and Pearson Correlation Coefficients between the dimensions of Passion, Perfectionism, Leadership Behaviors, and the Coach-Athlete Interpersonal Relationship

Dimension	α	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Close (CART-Q)	.64	5.95	(.78)													
2. Comp (CART-Q)	.78	5.86	(.72)	.64**												
3. Comp (CART-Q)	.67	5.86	(.72)	.57**	.61**											
4. TI (LSS)	.85	4.21	(.47)	.39**	.32**	.40**										
5. DEM (LSS)	.80	3.15	(.60)	.08	.13*	.20**	.11*									
6. AUTO (LSS)	.68	2.22	(.59)	-.29**	-.24**	-.20**	-.07	-.09								
7. SS (LSS)	.81	3.30	(.67)	.32**	.23**	.17**	.27**	.16*	-.06							
8. PF (LSS)	.79	4.17	(.58)	.29**	.26**	.26**	.39**	.16*	-.18*	.45**						
9. PSH (PS)	.79	3.02	(1.30)	.37**	.36**	.41**	.36**	.08	-.13**	.15**	.15*					
10. PSO (PS)	.80	5.09	(.97)	.15*	.05	.04	.12*	-.09	.14**	.02	.02	.14*				
11. PS (SMPS-2)	.76	3.79	(.55)	.27**	.08	-.15*	.33**	-.06	.01	.20**	.16**	.10*	.35**			
12. COM (SMPS-2)	.83	2.77	(.74)	-.07	-.12*	-.13*	-.12*	-.01	.18**	.13*	-.00	-.21**	.33**	.31**		
13. DAA (SMPS-2)	.78	2.29	(.68)	-.30**	-.27**	-.23**	-.17**	.05	.15**	-.04	-.03	-.22**	.20**	.03	.51**	
14. ORG (SMPS-2)	.85	3.53	(.71)	.23**	.14*	.14*	.32	-.01	.11*	.19**	.21**	.16**	.28**	.43**	.20**	.06

Notes: N=390, * $p < .05$, ** $p < .001$

Table 3

Results of the Multiple Regression Predicting the Dimension of Closeness

Predicted Variable	Variable	β	R^2
Closeness	Training & Instruction	.14*	.38**
	Democratic	.03	
	Autocratic	-.23**	
	Social Support	.17**	
	Positive Feedback	.05	
	Harmonious Passion	.16**	
	Obsessive Passion	.12**	
	Perfectionistic Strivings	.09	
	Concerns Over Mistakes	.04	
	Doubts About Actions	-.25**	
	Organization	.08	

Notes: $N = 390$, * $p < .05$, ** $p < .001$

The regression equation predicting commitment in the coach-athlete relationship was significant ($F_{(11,378)} = 12.39, p < .001$). Dimensions of passion, perfectionism, and leadership behaviors predicted 26.5% of the variance of commitment. The strongest negative predictor was the perfectionism domain of doubts about action ($\beta = -.22, p < .001$), followed by autocratic leadership behaviors ($\beta = -.22, p = .001$). The strongest positive predictor was HP ($\beta = .21, p < .001$), followed by training and instruction leadership behaviors ($\beta = .14, p = .01$). Perfectionistic strivings, concerns over mistakes, organization, obsessive passion, democratic leadership behaviors, social support leadership behaviors, and positive feedback leadership behaviors were non-significant

predictors of commitment for the coach-athlete relationship. Results from this regression model can be found in Table 4.

Table 4

Results of the Multiple Regression Predicting the Dimension of Commitment

Predicted Variable	Variable	β	R^2
Commitment	Training & Instruction	.14*	.27**
	Democratic	.07	
	Autocratic	-.16**	
	Social Support	.09	
	Positive Feedback	.09	
	Harmonious Passion	.21**	
	Obsessive Passion	.05	
	Perfectionistic Strivings	-.07	
	Concerns Over Mistakes	-.06	
	Doubts About Actions	-.22**	
	Organization	.07	

Notes: $N = 390$, * $p < .05$, ** $p < .001$

The regression equation predicting complementarity in the coach-athlete relationship was significant ($F_{(11,378)} = 14.28$, $p < .001$). Dimensions of passion, perfectionism, and leadership behaviors predicted 29.4% of the variance of complementary. The strongest negative predictor was the perfectionism domain doubts about actions ($\beta = -.15$, $p < .01$), followed by autocratic leadership behaviors ($\beta = -.10$, $p = .03$). The strongest positive predictor was HP ($\beta = .26$, $p < .001$), followed by training and instruction leadership behaviors ($\beta = .21$, $p < .001$), and democratic leadership

behaviors ($\beta = .14, p < .01$). Perfectionistic strivings, concerns over mistakes, organization, obsessive passion, social support leadership behaviors, and positive feedback leadership behaviors were non-significant predictors of complementarity. Results from this regression model can be found in Table 5.

Table 5

Results of the Multiple Regression Predicting the Dimension of Complementarity

Predicted Variable	Variable	β	R^2
Complementarity			
	Training & Instruction	.21**	.29**
	Democratic	.14*	
	Autocratic	-.10*	
	Social Support	-.01	
	Positive Feedback	-.08	
	Harmonious Passion	.26**	
	Obsessive Passion	.01	
	Perfectionistic Strivings	.03	
	Concerns Over Mistakes	.03	
	Doubts About Actions	-.15*	
	Organization	.02	

Notes: $N = 390$, * $p < .05$, ** $p < .001$

Discussion

Coaches are an essential part of the sporting domain. Previous literature has explored passion, perfectionism, leadership behaviors, and the coach-athlete relationship finding both positive and negative outcomes in the sport context (e.g., satisfaction, cohesion, burnout; Hill & Davis, 2014; Jowett, 2007). However, there has not been as

extensive research exploring the predictors of the coach athlete relationship. This study examined personality characteristics (i.e., passion, perfectionism) and behaviors (i.e., leadership behaviors) as predictors of the coach-athlete relationship. It was hypothesized that HP, adaptive perfectionism (i.e., perfectionistic strivings, organization) and positive leadership behaviors (i.e., training and instruction, democratic, social support, positive feedback) would positively predict the coach-athlete relationship; whereas maladaptive perfectionism (i.e., doubts about actions, concerns over mistakes) and negative leadership behaviors (i.e., autocratic) would negatively predict the coach-athlete relationship. Additionally, it was hypothesized that OP would be unrelated to the coach-athlete relationship. The hypotheses were partially supported.

The coach-athlete relationship includes three dimensions (i.e. closeness, commitment, complementarity; Jowett & Cockerill, 2003). The first dimension of the coach athlete-relationship explored was closeness. Closeness refers to feeling cared for, liked, valued, and trusted (Jowett & Cockerill, 2002). The results indicated that doubts about action and autocratic behavior had a negative prediction of closeness with doubts about action being the strongest negative predictor. The results supported the hypotheses and previous literature. Doubts about action have been related to maladaptive outcomes in the sport coaching literature (e.g., burnout; Hill & Davis, 2014; Tashman et al., 2010) and autocratic leadership behaviors have been negatively associated with the coach-athlete relationship (Hollembek & Amorose, 2005; Horne & Carron, 1985). The strongest positive predictor was social support, followed by HP, training and instruction, and OP. The results partially support the hypotheses and previous literature. Social support and training and instruction have been positively associated with the coach-

athlete relationship (e.g., athlete satisfaction, compatibility; Horne & Carron, 1985; Moen et al., 2014). It is no surprise that social support was the strongest positive predictor because this dimension denotes emotional support outside of sport, which is what the dimension of “closeness” entails. Harmonious passion has been associated with satisfying relationships and autonomy supportive coaching behaviors (Jowett et al., 2012; Lafreniere et al., 2011). For this dimension, the hypothesis that OP would have no relationship with the coach-athlete relationship was not supported. This could be because obsessively passionate coaches realize that they need their athletes to succeed for them to succeed at coaching. Therefore, they may think that by showing that they value and trust their athletes they will get more out of them. This finding is contradictory and warrants further exploration.

The second dimension of the coach-athlete relationship explored was commitment. Commitment refers to an intention to maintain a relationship towards common goals, values and beliefs (Jowett & Cockerill, 2002). Doubts about action and autocratic leadership behaviors were negative predictors of commitment with doubts about action being the strongest predictor. This supports the hypotheses and previous literature, noting the negative associations of doubts about actions and autocratic leadership behaviors in coaches (e.g., burnout, controlling coaching behaviors; Hill & Davis, 2014; Horne & Carron, 1985). The strongest positive predictor was HP followed by training and instruction leadership behaviors. This supports the hypotheses and previous literature, noting the positive associations of HP and training and instruction (e.g., satisfying relationships, autonomy coaching behaviors; Lafreniere et al., 2011; Moen et al., 2014). Harmonious passion shows that you care about your coaching and are

committed to coaching, which is what the dimension of “commitment” entails.

Additionally, with training and instruction, the coach shows that they are committed to making the athlete better at their sport.

The third and final dimension of the coach-athlete relationship explored was complementarity. Complementarity refers to complementary roles, tasks, and support (Jowett & Cockerill, 2002). Once again, doubts about action and autocratic leadership behaviors were negative predictors of complementarity with doubts about action being the strongest predictor. These findings support the hypotheses and previous literature, noting the negative associations of doubts about actions and autocratic behaviors (e.g., burnout, controlling coaching behaviors; Hill & Davis, 2014; Horne & Carron, 1985). It was not surprising that autocratic leadership behaviors was a negative predictor because this denotes authority in decision making, whereas complementarity denotes a shared efforts towards a common goal. The strongest positive predictor was HP, followed by training and instruction, and democratic behaviors. These findings support the hypotheses and previous literature, noting the positive relations of HP, training and instruction, and democratic behaviors (e.g., autonomy behaviors, satisfaction; (Lafreniere et al., 2011; Moen et al., 2014). With democratic behaviors, coaches allow their athletes to have a choice and make decisions towards a common goal, supporting “complementary” roles.

Overall, most of the results were anticipated. Doubts about action and autocratic leadership behaviors were negative predictors in all three dimensions of the coach-athlete relationship. These results support the previous literature with doubts about action and autocratic behaviors being associated with negative outcomes for sport coaches (e.g., burnout, athlete dissatisfaction; Moen et al., 2014; Tashman et al., 2010). Considering the

maladaptive nature of concerns over mistakes it is surprising that it was not a predictor of the coach-athlete relationship (Tashman et al., 2010). In contrast, HP and training and instruction were positive predictors in all three dimensions with social support, democratic behaviors, and OP all being predictors in at least one of the three dimensions. These results support the previous literature associated with outcomes in sport coaches (e.g., relationship satisfaction, cohesion, performance; Jowett et al., 2012; Moen et al., 2014). The one striking finding is that OP had a positive relationship in one of the three dimensions. This is inconsistent with previous literature (Lafreniere et al., 2008) and warrants further exploration due to the negative associations of this form of passion. Finally, inconsistent with previous literature showing positive associations, the three dimensions of organization, perfectionistic strivings, and positive feedback were not predictors of any dimension of the coach-athlete relationship (Horne & Carron, 1985; Moen et al., 2013).

These findings have both theoretical and practical implications for sport coaching literature. From a theoretical lens, this study grows the literature on the coach-athlete relationship and considers passion, perfectionism, and leadership behaviors as predictors of this relationship. Specifically, all three variables have implications for the coach-athlete relationship. Four out of five leadership variables and both passion dimensions were predictors of the coach-athlete relationship in at least one dimension. This provides evidence for the importance of leadership behaviors and passion when considering the coach-athlete relationship. Perfectionism may not share as strong of a link to the coach-athlete relationship with only one of four dimensions being a predictor. However, the dimension of doubts about action was the strongest negative predictor in all three coach-

athlete relationship dimensions so it should not be overlooked when considering this relationship. Previous literature suggests that passion (Lafreniere et al., 2008), perfectionism (Tashman et al., 2010), and leadership behaviors (Moen et al., 2013) differ based on the dimension being looked at and this study supports this notion. Theoretically, this study shows the multi-directional nature of the prediction of the coach-athlete relationship depending on the variable and dimension being explored. Such that passion, perfectionism, and leadership should not be looked at as whole variables, but rather for their individual nuances (e.g., relationship direction, strength) based on the dimension. There are not only theoretical implications for this study, but also practical implications.

This study has practical implications for coaches, athletes, and sport psychology consultants. From the personality characteristic perspective, the strongest negative predictor was doubts about action and the strongest positive predictor was HP. Doubts about actions have continuously been shown to be maladaptive in coaches (Hill & Davis, 2014; Tashman et al., 2010) and this study supports this notion. Previous literature has shown HP to be related to satisfying relationships and autonomy supportive behaviors (Carpentier & Mageau, 2014; Jowett et al., 2012; Lafreniere et al., 2008). Additionally, HP has been related to a work-life balance (Birkeland & Buch, 2015; Trepanier, Fernet, Austin, Forest, & Vallearnd, 2014). A work-life conflict impacts coaches' psychological needs satisfaction and then needs satisfaction impacts interpersonal coaching behaviors (Rocchi & Pelletier, 2017). In essence, coaches who are able to have a work-life balance will potentially have a better relationship with their athletes. This research helps inform sport psychology consultants to target HP and work through doubts about actions when working with coaches to help them attain a more positive coach-athlete relationship.

From the behavioral perspective, this study indicates some leadership behaviors coaches should focus on to help create a better relationship with their athletes. Previous research indicates that democratic, social support, training and instruction, and positive feedback are facilitative leadership behaviors whereas autocratic behaviors are typically debilitating leadership behaviors (Hollembeak & Amorose, 2005; Moen et al., 2014; Surujlal & Dhurup, 2012). This study supports the previous literature with democratic, social support, training and instruction positively predicting the coach-athlete relationship, with training and instruction being the strongest predictor. Autocratic behaviors negatively predicted the coach-athlete relationship and positive feedback did not predict the coach-athlete relationship. The findings from this study indicate that coaches should display training and instruction (e.g., development of athlete's skills, tactics, and performance) the most, along with democratic behaviors (e.g., encouraging athletes to make their own decisions for goals, training objectives, and game strategies) and social support (e.g., relationship with athletes outside of practice) while avoiding autocratic behavior (e.g., authority of decision making) for a positive coach-athlete relationship. The results indicate that positive feedback (e.g., rewarding and praising athletes for good performance) may not be as important for the coach-athlete relationship from the coaches' perspective.

This study advances the literature on the coach-athlete relationship. Both a strength and limitation of this study is that it is from the coaches' perspective. Much of the research on the coach-athlete relationship is from the perspective of athletes. A strength of this study was that it assesses what coaches believe are important to the coach-athlete relationship. Literature suggests that coaches' and athletes' perspective on

the relationship do line up closely, however they are not exact (Rocchi & Pelletier, 2018).

A limitation of this study is that it cannot be generalizable to what athletes see as important to the coach-athlete relationship because it is from the viewpoint of coaches.

There are a few additional limitations for this study. For one, this study was cross-sectional in nature, not allowing us to determine the causal nature of these relationships.

The data were also self-reported by coaches, thereby running the risk of social desirability bias. Additionally, the results may only be generalized to collegiate coaches in the NCAA. Finally, measurement fatigue is a limitation of this study.

Future research should consider other predictors (e.g., communication, emotion) for the coach-athlete relationship and other outcomes (e.g., satisfaction, performance). Additionally, future research should explore the longitudinal nature of these relationships using experimental research to help uncover the multi-directional associations of these variables. Future research should look at how well athletes and coaches perspectives of the relationship line up. Finally, researchers should investigate whether there are differences based on diversity characteristics (e.g., gender identity, sexuality, race/ethnicity). Previous literature acknowledges different experiences for coaches with differing identities (e.g., gender, sexuality; Keats, 2016; Norman, 2013). It is important to see how one's identity may play a role the coach-athlete relationship. Overall, this study advances our knowledge on the coach-athlete relationship, yet there is much work to be done to understand, create, and facilitate this relationship for both athletes and coaches.

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APPENDIX A

RECRUITMENT SCRIPT

Hello – You are receiving this email because you have been identified as a collegiate head or assistant coach. My name is Shelby Anderson and I am now a graduate assistant coaching softball and pursuing a Master's in Sport and Exercise Psychology. I played DIII softball at Hendrix College. My passion lies in better understanding the psychological aspects of sport, particularly coaching. In the following survey you will be asked questions regarding yourself and your coaching. The purpose of my research is to understand issues regarding coaches' relationships with their athletes. You can skip questions or withdraw from the survey at any time. Over 300 coaches will be recruited thereby helping ensure anonymity. I appreciate your time in helping me better understand collegiate coaching. If you are not a college coach please disregard this email.

The survey should take between 10-15 minutes to complete. If you are interested, please click the link below:

By clicking the link and taking the survey, I am acknowledging that I am 18 years of age or older.

INSERT LINK HERE

If you have any questions, please feel free to contact me at:

Shelby Anderson, Graduate Student
Ithaca College, Sport and Exercise Psychology
sanderson2@ithaca.edu

Or my faculty advisors at:

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APPENDIX B
DEMOGRAPHICS

What is your age?

What is your title?

Head coach

Assistant coach

What sport do you coach?

How many years have you been in coaching?

As an assistant:

As a head coach:

What is your current relationship status?

Married

Long term partnership

Engaged

In a relationship

Single

Do you have any children?

Yes

No

What is/are the age(s) of each child?

What is your gender identity?

Male

Female

Transgender MTF (Male to Female)

Transgender FTM (Female to Male)

Non-Binary/ Genderfluid /Genderqueer

Not sure

Prefer to self describe:

Prefer not to say.

What is your ethnic and racial background (select all that apply)?

African-American, Black

Chinese

Filipino

Indian

Japanese

Korean

Southeast Asian

White Caucasian- Non Hispanic

Hispanic or Latino

Mexican

American Indian, Alaskan Native

Middle Eastern

Unknown or not reported

Prefer not to say

Do you consider yourself to be:

Heterosexual

Gay

Lesbian

Bisexual

Questioning

Unsure, prefer not to say

APPENDIX C

THE PASSION SCALE (VALLERAND ET AL., 2003)

Instructions: While thinking of your coaching and using the scale below, please indicate your level of agreement with each item.

Not Agree at All	Very Slightly Agree	Slightly Agree	Moderately Agree	Mostly Agree	Strongly Agree	Very Strongly Agree
1	2	3	4	5	6	7

1. Coaching is in harmony with the other activities in my life.
2. I have difficulties controlling my urge to coach.
3. The new things that I discover with my coaching allow me to appreciate it even more.
4. I have almost an obsessive feeling for my coaching.
5. Coaching reflects the qualities I like about myself.
6. Coaching allows me to live a variety of experiences.
7. Coaching is the only thing that really turns me on.
8. Coaching is well integrated in my life.
9. If I could, I would only coach.
10. Coaching is in harmony with other things that are part of me.
11. Coaching is so exciting that I sometimes lose control over it.
12. I have the impression that coaching controls me.
13. I spend a lot of time coaching.
14. I love coaching.
15. Coaching is important for me.
16. Coaching is a passion for me.

APPENDIX D

THE SPORT-MPS-2 (GOTWALS & DUNN, 2009)

Instructions: While thinking of your coaching, please rate the degree to which you agree with each of the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

1. If I do not set the highest standards for myself in my coaching, I am likely to end up a second-rate coach.
2. Even if I fail slightly in coaching, for me, it is as bad as being a complete failure.
3. I usually feel uncertain as to whether or not my coaching effectively prepares my athletes for competition
4. On the day of coaching I have a routine that I try to follow.
5. I hate being less than the best at things in my coaching.
6. I have and follow a pre-coaching routine.
7. If I fail in coaching, I feel like a failure as a person.
8. I usually feel unsure about the adequacy of my pre-competition practices.
9. I rarely feel that my coaching fully prepares my athletes for competition.
10. The fewer mistakes I make in coaching, the more people will like me.

11. It is important to me that I be thoroughly competent in everything I do in my coaching.
12. I follow pre-planned steps to prepare myself for coaching.
13. Prior to competition, I rarely feel satisfied with my coaching.
14. I think I expect higher performance and greater results in my daily coaching than most coaches.
15. I feel that other coaches generally accept lower standards for themselves in coaching than I do.
16. I should be upset if I make a mistake in coaching.
17. I follow a routine to get myself into a good mindset going into coaching.
18. If another coach out-coaches me, then I feel like I failed to some degree
19. I rarely feel that I have coached enough in preparation for a competition.
20. If I do not do well all the time in coaching, I feel that people will not respect me as a coach.
21. I have extremely high goals for myself in my coaching.
22. I develop plans that dictate how I want to coach during competition.
23. I set higher achievement goals than most coaches who coach my sport.
24. I usually have trouble deciding when I have practiced enough heading into a competition.
25. People will probably think less of me if I make mistakes in coaching.

26. I set plans that highlight the strategies I want to use when I coach.

27. If I coach well but only make one obvious mistake in the entire game, I still feel disappointed with my coaching.

APPENDIX E

THE LEADERSHIP IN SPORT SCALE (CHELLADURAI & SALEH, 1980)

Instructions: Using the following scale, please rate from 1 (never) to 5 (always) to indicate your level of agreement with each of the statements regarding your coaching behaviors.

Never	Seldom	Occasionally	Often	Always
1	2	3	4	5

In coaching I...

1. See to it that every athlete is working to his/her capacity.
2. Explain to each athlete the techniques and tactics of the sport.
3. Pays special attention to correcting athlete's mistakes.
4. Make sure that my part in the team is understood by all the athletes.
5. Instruct every athlete individually in the skills of the sport.
6. Figure ahead on what should be done.
7. Explain to every athlete what he/she should and what he/she should not do.
8. Expect every athlete to carry out his assignment to the last detail.
9. Point out each athlete's strengths and weaknesses.
10. Give specific instructions to each athlete as to what he/she should do in every situation.
11. See to it that the efforts are coordinated.
12. Explain how each athlete's contribution fits into the total picture.
13. Specify in detail what is expected of each athlete.
14. Ask for the opinion of the athletes on strategies for specific competitions.

15. Get group approval on important matters before going ahead.
16. Let his/her athletes share in decision making.
17. Encourage athletes to make suggestions for ways of conducting practices.
18. Let the group set its own goals.
19. Let the athletes try their own way even if they make mistakes.
20. Ask for the opinion of the athletes on important coaching
21. Let athletes work at their own speed.
22. Let the athletes decide on the plays to be used in a game.
23. Work relatively independent of the athletes.
24. Do not explain my actions.
25. Refuse to compromise a point.
26. Keep to myself.
27. Speak in a manner not to be questioned.
28. Help the athletes with their personal problems.
29. Help members of the group settle their conflicts.
30. Look out for the personal welfare of the athletes.
31. Do personal favors for the athletes.
32. Express affection I feel for my athletes.
33. Encourage the athlete to confide in me.
34. Encourage close and informal relations with my athletes.
35. Invite athletes to my home.
36. Compliment an athlete for his/her performance in front of others.
37. Tell an athlete when he/she does a particularly good job.

38. See that an athlete is rewarded for a good performance.
39. Express appreciation when an athlete performs well.
40. Give credit when credit is due.

APPENDIX F

THE COACH-ATHLETE INTERPERSONAL RELATIONSHIP SCALE (11-ITEM

CART-Q; JOWETT & NTOUMANIS, 2004)

Instructions: While thinking about your coaching, please rate the degree to which you agree with each of the following statements on a scale from 1 (not agree at all) to 7 (extremely agree).

Not Agree at All						Extremely Agree
1	2	3	4	5	6	7

1. I feel close to my athletes.
2. I feel committed to my athletes.
3. I feel that my sport career is promising with my athletes.
4. I like my athletes.
5. I trust my athletes.
6. I respect my athletes.
7. I feel appreciation for the sacrifices my athletes have experienced in order to improve their performance.
8. When I coach my athlete, I feel at ease.
9. When I coach my athlete, I feel responsive to his/her efforts.
10. When I coach my athlete, I am ready to do my best.
11. When I coach my athlete, I adopt a friendly stance.