RELATIONSHIPS AMONG PEER LEADERSHIP, COACH LEADERSHIP, AND INDIVIDUAL AND TEAM OUTCOMES

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Melissa S. Price, M.Ed.

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Department of Leadership, Foundations, and Policy

Curry School of Education

University of Virginia

Charlottesville, Virginia

APPROVAL OF THE DISSERTATION

This dissertation, "Relationships Among Peer Leadership, Coach Leadership, and Individual and Team Outcomes," has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Maureen R. Weiss, Ph.D., Chair

Herbert C. Richards, Ph.D.

Xitao Fan, Ph.D.

Diane E. Whaley, Ph.D

Nancy L. Deutsch, Ph.D.

Feb 12, 2010 Date

ABSTRACT

Two studies examined the relationship between peer and coach leadership effectiveness and adolescent female athletes using transformational leadership theory as a framework (Bass, 1985; Bass & Avolio, 1994). Study 1 was designed to replicate and extend previous research by examining relationships between personal characteristics and peer leadership behaviors, and between peer leadership behaviors and team outcomes (Glenn, 2003; Glenn & Horn, 1993; Moran, 2003; Moran & Weiss, 2006). Female adolescent soccer players (N = 191) completed measures to assess teammate leadership, their own leadership characteristics and behaviors, and team outcomes. Canonical correlation analyses were used to examine study relationships. The first analysis revealed that athletes who were rated higher by teammates on instrumental leadership and rated themselves higher in instrumental/prosocial leadership behavior reported higher soccer competence, peer acceptance, and intrinsic motivation. Athletes rated higher on prosocial leadership by teammates scored higher on perceived behavioral conduct. The second analysis showed that athletes who rated themselves higher in instrumental/prosocial leadership behavior reported greater task and social cohesion and collective efficacy. Athletes who were rated higher by teammates on instrumental and prosocial leadership reported greater social cohesion.

Study 2 addressed the unique and combined influence of athlete and coach leadership on individual and team outcomes, also within transformational leadership

theory. Female adolescent soccer players (N = 412) completed surveys assessing teammate and coach leadership behaviors and individual (perceived soccer competence, intrinsic motivation, enjoyment, commitment) and team (social and task cohesion and collective efficacy) outcomes. First, confirmatory factor analysis of the MLQ-5X resulted in a 3-factor solution for peer and coach leadership including transformational, corrective, and passive/avoidant behaviors. Second, structural equation modeling was used to explore relationships among transformational, corrective, and passive/avoidant leadership behaviors and individual and team outcomes. For the unique influence of peer leadership, transformational behaviors were positively related to athletes' enjoyment, intrinsic motivation, task and social cohesion, and collective efficacy, while corrective and passive/avoidant behaviors were negatively related to task cohesion. For the unique influence of coach leadership, transformational behaviors were positively associated with perceived soccer competence, intrinsic motivation, enjoyment, task and social cohesion, and collective efficacy, while corrective behaviors were negatively related to the same individual outcomes as well as task cohesion and collective efficacy. For the combined influence of peer and coach leadership, coach transformational behaviors were positively related to athletes' perceived competence, enjoyment, task cohesion, and collective efficacy, while peer transformational behaviors were positively related to task and social cohesion. Findings from both studies showed support for transformational leadership theory as a framework for understanding peer and coach leadership effectiveness in sport.

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CHAPTER I

INTRODUCTION

The study of leadership has garnered considerable attention throughout time and in various contexts. Political, military, philanthropic, and business leaders provide examples of effective leadership. This trend is evident in sport, where leadership is associated with successful coaches such as John Wooden, Vince Lombardi, and Pat Summit, and charismatic athletes such as Michael Jordan, Julie Foudy, and Peyton Manning. Anecdotal accounts provide examples of how the actions of coaches and athletes may affect team motivation and performance. Considerable empirical research exists on coach leadership that substantiates the influence of coaching behaviors on athletes' psychosocial development. A growing body of research on peer leadership suggests that teammates can also help achieve team goals and foster positive outcomes. However, more research is needed to understand athlete leadership in sport contexts.

Leadership is a widely used term with multiple definitions, meanings, and conceptions. Northouse (2004) defines leadership as a process of social influence in a group setting that results in achievement of goals or objectives. For example, coaches provide feedback and instruction to their athletes to foster skill development. Several theories of leadership have been used to describe how leader traits, situational factors, and leader-member relations signify effective leadership. Stemming from the beginnings of great man theory (i.e., leaders are born, not made) to more modern day approaches

(e.g., contingency theory, transformational leadership), leadership theories have evolved to include a myriad of components related to characteristics of the leader, situation, followers, and leader-follower relationship. Trait theories recognize the importance of leaders having a set of qualities or attributes that differentiate them from non-leaders. In contrast, situational theories argue that the context dictates leader effectiveness. In other words, different situations require different types of leadership behaviors; thus, leaders must recognize situational demands and behave accordingly. Finally, other leadership theories accentuate leader-follower relations as central to effective leadership. For example, positive exchanges or interactions between leaders and followers result in desirable outcomes (e.g., satisfaction, motivation). The focus is not on the characteristics of the leader, followers, or situation, but the relationship that develops between leaders and followers. Thus, the strength of leader-follower relationship-centered theories lies in the reciprocal social interactions of leaders and followers in achieving a common goal.

Transformational leadership theory (Bass, 1985, 1990; Bass & Avolio, 1993, 1994) emphasizes the leader-follower relationship, making it relevant to the study of athletic leadership. According to Bass and colleagues, transformational leaders inspire and motivate followers to exceed performance expectations by changing and shaping followers' beliefs and attitudes. Transformational leadership behaviors include dimensions of *idealized influence* (i.e., creating a vision), *inspirational motivation* (e.g., challenging followers to exceed expectations), *intellectual stimulation* (e.g., fostering creativity and problem solving), and *individualized consideration* (e.g., recognizing and valuing each follower's contribution to the group). Leaders empower followers to achieve goals and, throughout the process, leaders and followers consider each other's ideas

regarding goal attainment. As a result, cooperation develops between leaders and followers and teamwork is enhanced. Followers sacrifice self-interest for the shared vision and goals of the group.

Leadership in sport has mostly studied coaches as leaders and athletes as followers (Horn, 2008). Coach effectiveness research focuses on how coaching behaviors influence individual and team outcomes. Frameworks such as the multidimensional model of leadership (Chelladurai, 1980, 2001, 2007), cognitive-mediational model (Smoll & Smith, 1989), and motivational theoretical approaches (e.g., competence motivation theory, self-determination theory) have all been used to describe and explain coach leadership behaviors in relation to athlete outcomes. More recently, researchers have applied the principles of transformational leadership to further understand and explain coach leadership effectiveness (Charbonneau, Barling, & Kelloway, 2001; Chelladurai, 2007; Rowold, 2006).

Coach leadership research provides compelling evidence that certain coaching behaviors promote positive psychosocial and behavioral outcomes for athletes and teams (see Horn, 2002, 2008). Coaches provide feedback and reinforcement, employ decision-making and interpersonal styles, and create a value structure for the learning environment. These mechanisms of influence are essential for developing athletes' self-perceptions, motivation, positive affect, and athletic skills. Looking across studies, more frequent positive feedback, skill instruction, social support, and democratic decision-making by coaches, and emphasis on a mastery climate, are associated with athletes who report higher levels of enjoyment, perceived competence, intrinsic motivation, and cohesion, and lower levels of burnout and anxiety (e.g., Amorose & Horn, 2000; Black &

Weiss, 1992; Price & Weiss, 2000; Smith, Smoll, & Barnett, 1995; Smith, Smoll, & Cumming, 2007; Smith, Smoll, & Curtis, 1979; Theeboom, De Knop, & Weiss, 1995; Westre & Weiss, 1991).

Coaches are not the only source of team leadership. Team members can also occupy leadership roles (i.e., peer leadership) and are equally important for studying leadership effectiveness in sport (Partridge, Brustad, & Babkes Stellino, 2008). Research on peer leadership in sport, however, has been less frequently studied than coach leadership. Several descriptive studies have shown that peer leaders possess higher levels of skill, peer acceptance, and perceived competence, and show both instrumental and expressive behaviors (e.g., Glenn & Horn, 1993; Klonsky, 1991; Moran & Weiss, 2006; Rees, 1983; Rees & Segal, 1984). Other research has shown that peer leaders provide teammates with training and instruction, social support, positive feedback, a democratic decision-making style (e.g., Glenn, 2003; Loughead & Hardy, 2005), and inspirational and motivational behaviors (Zacharatos, Barling, & Kelloway, 2000). Further investigation is needed to fully understand the characteristics and behaviors of peer leaders and how they relate to team outcomes.

Peer leadership effectiveness is best understood by examining the relationship of peer leader behaviors with team outcomes because this provides insight into how peer leaders influence other team members. Peer leadership behaviors expressed in training and instruction, positive feedback, social support, task direction, and democratic decision-making have been shown to positively influence teammates' perceptions of satisfaction, cohesion, and collective efficacy (e.g., Eys, Loughead, & Hardy, 2007; Glenn, 2003). Because only a handful of studies have examined the link between peer

leader behaviors and athlete outcomes, future research is needed to bolster the literature on peer leadership effectiveness.

Both coach and peer leaders are recognized as being important for team success, but little research has investigated the joint influence of coach and athlete leadership on team or individual outcomes. For example, Glenn (2003) found that coaches and peer leaders use similar behaviors (e.g., positive feedback, democratic decision-making) that resulted in higher feelings of cohesion and collective efficacy among team members. In contrast, Loughead and Hardy (2005) found that coaches and peer leaders exhibit different behaviors. Coaches were viewed as providing more frequent training and instruction and autocratic behavior whereas peer leaders were viewed as providing more frequent social support, positive feedback, and democratic behavior. Other researchers have provided some evidence that coaching behaviors influence team members' preferences for peer leadership behaviors (e.g., Kozub & Pease, 2001; Wildman, 2006). For example, Kozub and Pease found that athletes who rated coaches as more democratic in decision style preferred peer leaders who engaged in more frequent task- and social-oriented behaviors (e.g., positive feedback, conflict resolution). Thus, while research suggests a relationship between coach and peer leadership, the nature of this relationship is not well understood.

Transformational leadership is a viable theory for understanding coach and athlete leadership in sport (Bass & Riggio, 2006; Horn, 2008; Weese, 1994). With this approach, coaches convey a vision about the team's mission or goals. In doing so, they inspire peer leaders and team members to believe in the vision, thus fostering cooperation to achieve team goals. Coaches and peer leaders also encourage team members to provide input or

ideas to enhance team success and satisfaction. Finally, coaches and peer leaders acknowledge the individual contribution of each team member to the group's success. These components are characteristic of a transformational leadership style. Some research has shown that transformational coaching behaviors influence athletes' effort, commitment, intrinsic motivation, and performance (Charbonneau et al., 2001; Rowold, 2006). Likewise, one study has shown that transformational peer leadership behaviors influence team members' satisfaction and effort (Zacharatos et al., 2000).

Thus, the purpose of the present studies is to examine peer and coach leadership by effectiveness using transformational leadership theory as a framework (Bass, 1985; Bass & Avolio, 1994). Study 1 was designed to replicate and extend previous research by examining relationships between personal characteristics and peer leadership behaviors, and between peer leadership behaviors and team outcomes (Glenn, 2003; Glenn & Horn, 1993; Moran, 2003; Moran & Weiss, 2006). Personal characteristics included perceived competence, perceived behavioral conduct, intrinsic motivation, and perceived peer acceptance, and peer leadership behaviors included teammate-rated and self-rated peer leadership measures. Study 1 also examined the relationship of peer leadership behaviors with team outcomes (i.e., group cohesion, collective efficacy). To further explore leadership on sport teams, Study 2 addressed the unique and combined influence of coach and athlete leadership on team and individual outcomes. That is, how do coach and peer leadership behaviors separately and concurrently influence athlete outcomes such as enjoyment, perceived competence, intrinsic motivation, and commitment, and team outcomes such as cohesion and collective efficacy?

In the following sections, I address relevant theory and research about coach and athlete leadership. First, leadership is defined and discussed relative to various theories of leadership, culminating in transformational leadership theory. Second, I review several theories and research studies on effective coach leadership in sport. Third, I describe correlates and consequences of peer leadership in sport. Finally, I highlight research on the combined influence of coach and peer leadership before moving to the purposes and hypotheses of the present studies.

Theories of Leadership

Systematic study of leadership can be traced back to the early 20th century. Development of comprehensive views of leadership generated theories that included leader traits, behaviors, and situational demands. Other theories emphasized the *interactions* between leaders and followers to determine effective leadership. The following section summarizes commonalities among theories, including definitions and approaches for studying leadership.

Leadership Defined

Northouse (2004) defined leadership as "a process whereby an individual influences a group of individuals to achieve a common goal" (p. 3). Breaking down Northouse's definition of leadership reveals several key aspects: (a) leadership is a process, (b) leadership involves influence, (c) leadership occurs in a group context, and (d) leadership is characterized by goal attainment. These factors will be elaborated in turn.

Northouse (2004) defines leadership as a process, not an individual personality trait or characteristic. Leadership is considered an interactional experience between a leader and his or her followers. Of particular interest to the present study is that this definition does not restrict leadership to formal leaders (i.e., coaches, team captains), but includes emergent leaders from the group as well. According to Northouse's definition, informal leaders can exist such as any member on sport teams (e.g., captain, starter, senior) regardless of role or status within the team.

Northouse (2004) also stated that social influence is an essential component of leadership, such as how leaders facilitate goal achievement among followers. In sport, coaches and peer leaders may influence other members through encouragement, role modeling, or decision making. These mechanisms effect behavioral changes in group members that should lead to goal attainment.

The third essential aspect of leadership is that it occurs in a group context. The group context can be small (golf team) or large (soccer team). Smaller groups can also be part of a larger group; for example, a soccer team would be the larger group comprised of smaller groups (e.g., forwards, midfielders, goalkeepers). Therefore, to better understand effective leadership of coaches and athletes in sport, one must consider the relevant group context in which leaders influence followers to achieve a common goal.

Goal attainment, according to Northouse (2004), is the fourth essential aspect of leadership. Leaders are responsible for guiding a group of individuals toward accomplishing a common goal. Using a soccer team as an example, coaches direct training sessions and foster skill development in an effort to assist the team toward the common goal of playing well together. Also, peer leaders work with other team members

toward achieving goals such as warming up for practice and getting motivated for an upcoming game.

Given the definition of leadership outlined by Northouse (2004), it is clear that sport teams connote a group with a common goal and that leaders interact with followers to achieve that goal. Therefore, the next logical step is to highlight the nature of the leader-follower relationship. Hollander (1978) and Northouse emphasized that the process of leadership is reciprocal, in that leaders need followers and followers need leaders. However, the leader is often responsible for initiating the leader-follower relationship, fostering communication, and maintaining the relationship. Because of the interactive nature of the leader-follower relationship, leaders and followers need to be studied in relation to each other, not as two separate entities. Thus, interactions between leaders and followers in sport (e.g., coaches and athletes, peer leaders and teammates, coaches and peer leaders) are essential for understanding leadership behaviors on teams and their relationship to outcomes such as enjoyment, motivation, confidence, and cohesion. Now that leadership has been defined, the next step is to outline theories of leadership.

Trait Approach

Many "great leaders" have existed throughout time (e.g., presidents, military personnel, philanthropists). Early studies of leadership described innate qualities and personality characteristics that made these individuals successful leaders. The great man theory of leadership stated that men born with certain physical characteristics (i.e., height, stature, race) and intellect were more likely to be leaders (Burns, 1978; Zaccaro, 2007). The key point of great man theory is that leaders are born, not made—a nature over

nurture explanation. Researchers realized that inborn traits did not sufficiently explain leadership; however, the notion that leaders have a certain set of traits or skills discerning them from non-leaders is important to the study of leadership. For example, several studies demonstrated that leaders possess greater intelligence, determination, self-confidence, integrity, and sociability that make them effective (Kirkpatrick & Locke, 1991; Lord, DeVader, & Alliger, 1986; Mann, 1959; Stogdill, 1948, 1974).

Other studies revealed that leaders exhibit two types of behaviors—task (i.e., initiating structure) and social (i.e., consideration) (Halpin & Winer, 1957; Katz & Kahn, 1951). Task-oriented behaviors include organization, instruction, and planning to facilitate goal attainment. Social behaviors include cooperation, conflict resolution skills, and interpersonal skills that focus on relationships between members of the group. Which behaviors predominate depends on situational demands and requirements. For example, some situations may require a leader to be more task-oriented (i.e., skill instruction), while other situations will call for a leader to engage in more social-oriented behaviors (i.e., encourage, show concern). In sport, coaches define responsibilities of team members and clarify task requirements for practices or games (i.e., task-oriented behaviors). However, coaches and athlete leaders also use social-oriented behaviors to foster team unity and respect.

Role differentiation theory of leadership (Bales, 1953; Bales & Slater, 1955; Slater, 1955) also describes leaders' task and social behaviors. Specifically, leaders are thought to develop roles within the group that are concerned with goal attainment (i.e. instrumental or task-oriented) and group harmony and cohesion (i.e., expressive or social-oriented). Initially, Bales and Slater stated that leaders could be instrumental *or*

expressive, but not both at the same time. However, research has shown that role integration, or situation-specific use of task and social behaviors, more accurately describes effective leadership (e.g., Lewis, 1972; Rees & Segal, 1994). In other words, effective leaders engage in task-oriented and social behaviors to varying degrees based on situational expectations and requirements.

The shift away from purely inherited traits (i.e., great man theory) to personal characteristics or attributes suggests that individual differences should be considered when describing leader effectiveness (Zaccaro, 2007; Zaccaro, Kemp, & Bader, 2004). Furthermore, Zaccaro et al. argued that trait-based approaches for studying leadership effectiveness should include multiple personal characteristics that promote leadership effectiveness. For example, personality attributes, motives, values, cognitive abilities, problem solving abilities, and expertise are thought to describe leader effectiveness (Zaccaro, 2007).

Situational Approach

Another set of theories emphasizes contextual or environmental factors that characterize leadership effectiveness. In other words, different situations require different forms of leadership behaviors, such as task and organizational characteristics. Situational factors include the people, task, and organization. The situational approach to leadership suggests that leaders should be able to discern situational demands and engage in the appropriate leadership style. Contingency theory (Fiedler, 1967, 1993, 1995), path-goal theory (Evans, 1970; House, 1976; House & Dessler, 1974; House & Mitchell, 1974), the normative model of decision-making (Vroom, 2000; Vroom & Jago, 1988; Vroom & Yetton, 1973), and Hersey-Blanchard's (1969, 1993) situational leadership theory all

address leadership using a situational approach. While each theory has a unique view of the leadership process, they all recognize that leadership effectiveness is highly dependent upon the situation.

Several commonalities exist among the situational approaches to leadership. First, leaders choose behaviors (e.g., task, social) based on situational needs and goals. For example, leaders may exhibit more frequent task-oriented behaviors than social behaviors in situations where followers require direction to achieve goals. In sport, coaches and athlete leaders who provide instruction during training sessions use task-oriented behaviors to facilitate the team's completion of a specific drill.

Second, followers' personal characteristics must be considered when deciding upon task and social leadership behaviors. For example, followers' perceived competence, motivation, and need for affiliation are examples of characteristics that should influence leaders' choice of behaviors. Coaches and athlete leaders may engage in task and social behaviors when interacting with team members who lack motivation and require social support to encourage them to succeed, feel accepted within the group, and understand their role in achieving team goals.

Third, the situational approach recognizes that task characteristics influence leadership effectiveness. Some examples include task structure (e.g., clearly defined or ambiguous goals), task type (e.g., group, individual), and level of task difficulty (e.g., optimally challenging, difficult). Leadership effectiveness is reflected in coaches' and athletes' ability to recognize task characteristics and choose appropriate behaviors to foster successful outcomes. For example, coaches who use task-oriented behaviors (e.g., instruct, define team members' roles) eliminate task ambiguity by providing athletes with

clearly stated goals. Likewise, coaches are more likely to be effective leaders when they adapt their behaviors to situations by providing instruction and positive feedback to help athletes complete difficult practice goals.

Finally, decision-making style influences leaders' interactions with followers. Leaders can range from autocratic to consultative to participative to delegative depending on the situation. Autocratic coaches make decisions without athlete input; however, consultative, participative, and delegative coaches involve athletes in decision making to varying degrees. In sport, the degree to which coaches exercise control or allow athletes input into team and individual decisions influences athlete outcomes such as satisfaction and motivation.

In sum, the situational approach specifies that leadership behaviors are contingent upon situational needs and goals. Follower and task characteristics and leader-follower relations are key aspects of the situation that determine the appropriateness of leadership behaviors. When leaders are able to effectively engage in situation-specific behaviors, followers are more likely to feel satisfied, put forth effort, and remain committed (Northouse, 2004).

Leader-Follower Relationship-Centered Approach

Throughout this discussion of leadership theories, the focus has been on the leader (e.g., trait approach) or the context (e.g., situational approach). The final group of theories emphasizes the relationship between leaders and followers rather than leader traits or situational factors. The following theories demonstrate that leadership is a function of relationships between leaders and followers that result in desired outcomes. The principles of leader-member exchange theory, transactional leadership theory, and

transformational leadership theory emphasize the interplay between leaders and followers.

Leader-Member Exchange Theory (LMX; Dansereau, Graen, & Haga, 1975; Graen, 1976; Graen & Cashman, 1975) is based on the notion that social interaction is a form of exchange. LMX focuses on the dyadic relationship between leaders and followers. In other words, the leader forms an individual relationship with each follower and leadership effectiveness is determined by the aggregate of these dyadic relationships. Prior to LMX, leadership effectiveness was examined at the group level meaning how effectively leaders interacted with followers as a collective, rather than as individuals. In sport, the coach forms a relationship with each member of the team, separate from his or her relationship with the group. The collection of these individual coach-athlete relationships is the basis for determining effective leadership. According to LMX theory, followers become part of the in-group or out-group based on how well they work and get along with the leader, how well the leader works with them, and their level of involvement in pursuing and expanding their roles and responsibilities. Therefore, followers in the in-group receive more information, influence, confidence, and concern from the leader. Conversely, followers in the out-group are required to do extra work and given less autonomy. Thus, high quality leader-member exchanges are related to in-group followers having positive experiences, accomplishing tasks, and helping the group grow and develop.

The exchange concept of leadership segues nicely into a discussion of transactional leadership theory. Based on the principles of social exchange theory (Kelley & Thibaut, 1978; Thibaut & Kelley, 1959), that individuals engage in dyadic interactions

to gain something from the relationship, Hollander (1978, 1980) described transactional leadership theory as representing the give-and-take between leaders and followers. In other words, leaders must satisfy members' goals and, in return, members must fulfill performance expectations and reaffirm the leader's position. In transactional leadership, the leader takes into account followers' attitudes and motives; in turn, followers evaluate the leader's responsiveness to meeting their needs. Followers perceive leaders to be effective when leaders reward followers for satisfactory performance. These positive exchanges are the basis for continued interactions between leaders and followers.

A third theory of leadership based on relationships between leaders and followers is transformational leadership theory. Transformational leadership arose from early work describing charismatic leaders who engage and connect with followers in an effort to enhance motivation and morality (Burns, 1978; House, 1976). However, Bass (1985) believed that charisma was an important but not sufficient explanation for the relationships between leaders and followers. According to Bass, transformational leadership raises followers' awareness about their goals and motivates the group towards achieving them. Simply put, transformational leaders inspire and motivate the group to do more than originally expected. For example, a sport team might believe they are capable of winning games and playing well together, but a transformational leader is able to modify team members' beliefs that they can achieve loftier goals such as a conference championship or difficult tactical and strategic game plans. Likewise, transformational leaders encourage followers to look beyond their own interests toward those that will benefit the group.

Bass (1985, 1990, 1998) developed a model of leadership that ranged from laissez-faire leadership (i.e., absence of leadership) to transactional and transformational leadership. Bass (1985) stated that transformational leadership theory encompasses a full range of behaviors demonstrating the multidimensionality of leadership. Transformational leadership behaviors were referred to as the 4I's and include *idealized influence* (e.g., leading by example), *inspirational motivation* (e.g., conveying optimism about reaching goals), *intellectual stimulation* (e.g., fostering creativity and problem solving), and *individualized consideration* (e.g., recognizing and valuing each follower's contribution to the group). Transactional leadership behaviors refer to exchanges between leaders and followers (e.g., social approval), while transformational behaviors refer to challenging expectations that leaders inspire followers to attain. For example, a coach praises athletes for achieving a practice goal (e.g., transactional behavior), but when the same coach encourages his or her athletes to engage in problem-solving to achieve higher standards and accomplish more difficult tasks, transformational leadership occurs. According to Bass' full-range model, infrequent laissez-faire leadership and more frequent transactional and transformational behaviors reflect an optimal leadership profile.

Figure 1 depicts Bass' (1985) optimal profile of the full-range leadership model. Behaviors range from passive to active (x-axis) and ineffective to effective (y-axis). According to Bass, the frequency at which behaviors should occur for optimal leadership is represented by where the box lies on the x and y axes and the frequency plane (also shown by the depth of each box). For example, the black portion of the box for the 4I's is deeper than that of laissez-faire. Thus, laissez-faire leadership (LF) is passive and

ineffective. By contrast, transformational behaviors (4I's; *idealized influence, inspirational motivation, intellectual stimulation, individualized consideration*) are active and effective. Management-by-exception passive (MBE-P), management-by-exception active (MBE-A), and contingent reward (CR) fall in between. Therefore, when examining leadership behaviors using transformational leadership theory, effective leaders are those who engage in more frequent transformational and transactional behaviors and less frequent laissez-faire behaviors.

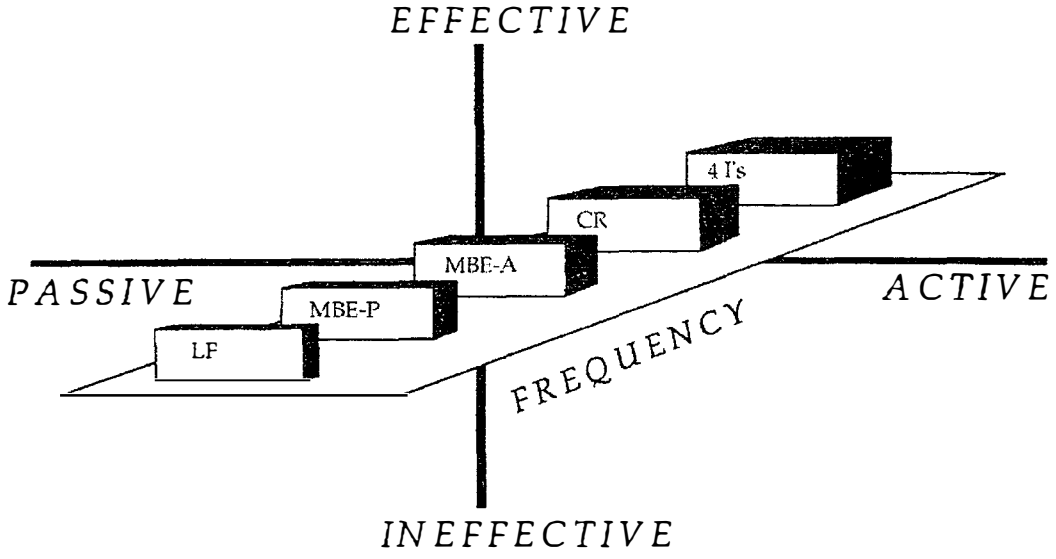

Figure 1. Full-range Leadership Model

Bass and colleagues (Bass, 1985, 1990; Bass & Avolio, 1993, 1994) expanded earlier conceptions of transactional leadership to include leader behaviors such as contingent reward, management-by-exception active, and management-by-exception passive. Contingent reward refers to the exchange process between leader and followers

(i.e., establishing rewards for meeting expectations). Management-by-exception takes two forms, both of which refer to the corrective action a leader adopts based on leader-follower transactions. The difference between the two relates to the timing of leader involvement. For management-by-exception active, the leader monitors followers' behaviors, anticipates issues, and takes action to correct behaviors before serious problems arise (i.e., preventive). Management-by-exception passive differs in that leaders wait until followers' behaviors are problematic before taking action (i.e., intervention). Based on these behaviors, transactional leadership is hypothesized to be positively related to follower job satisfaction and motivation, group performance, and follower satisfaction with their leader (see Judge & Piccolo, 2004).

Transformational leadership behaviors include four dimensions that maximize followers' performance and potential. Bass and colleagues (Bass, 1985, 1990; Bass & Avolio, 1990, 1993, 1994) described these dimensions as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (i.e., 4I's). *Idealized influence* is synonymous with charisma and describes leaders who are role models, have high moral and ethical standards, and create a vision for the group. Followers trust, identify with, and seek to emulate these leaders. *Inspirational motivation* is the leader's ability to arouse a sense of purpose among followers, communicate optimism about goals, and challenge followers to achieve high expectations. Leaders encourage followers to become committed to a shared vision of the group. Inspirational motivation is an important aspect of building group unity and confidence. *Intellectual stimulation* is concerned with how leaders promote creativity and innovation among followers, such as engaging in problem-solving strategies to encourage new approaches

for dealing with group or individual issues. In essence, intellectual stimulation gives followers the opportunity to demonstrate their resourcefulness as the group strives for goal attainment. Finally, *individualized consideration* refers to the degree to which the leader attends to the needs of followers. If leaders respect and acknowledge the individual contribution of followers to the success of the group, they help followers in becoming self-actualized.

Dimensions of transformational leadership behaviors are consistent regardless of gender, meaning that both men and women engage in the full range of leadership behaviors. However, some research suggests that followers perceive male and female leaders differently. For example, women were viewed as using more transformational (i.e., 4I's) and less transactional and laissez-faire leadership behaviors than men (Bass, Avolio, & Atwater, 1996; Eagly & Johannesen-Schmidt, 2001; Eagly, Johannesen-Schmidt, & van Engen, 2003; van Engen & Willemsen, 2004). Researchers have contended that followers perceive female leaders as more transformational than men for several reasons. First, women tend to be more relationship-oriented rather than task-oriented (i.e., traditional male managerial role). Thus, women are more interested in and show more care and concern for others than men (Eagly & Johnson, 1990). Second, Eagly et al. (2003) noted that women develop individual relationships with each follower to a greater extent than men, thus engaging in individualized consideration behaviors and emphasizing each follower's unique contribution to the group. Finally, women displaying transformational leadership behaviors are consistent with the female gender stereotype (i.e., caring, supportive). In other words, followers viewed women leaders as engaging in more frequent encouraging, compassionate, and autonomy-supportive behaviors than

men because that is how they perceive women regardless of leadership status (Bass & Riggio, 2006; Eagly & Carli, 2007). Collectively, these findings suggest that while transformational leadership theory does not differ based on gender, followers may perceive differences among male and female leaders.

Transformational leadership is a multidimensional process that occurs through interactions between leaders and followers. Confident, competent, and articulate leaders express strong values and ideals through role modeling, and followers identify with and respond constructively to such leaders. This process results in a sense of cooperation and trust between leaders and followers that encourages teamwork and a group identity based on a shared vision. Research has shown that transformational leadership is positively related to followers' satisfaction, motivation, and performance (see Bass & Riggio, 2006; Judge & Piccolo, 2004; Yukl, 1999).

Transformational leadership represents an appealing framework for studying leadership in sport. According to the theory, leadership behaviors range from passive and ineffective to active and effective. Thus, a wide range of leadership behaviors can be examined in relation to a variety of outcomes or situations. Applying transformational leadership to sport is not entirely new. Studies have used transformational leadership theory to explain leadership in sport organizations (e.g., Davis, 2002; Lim & Cromartie, 2001). For example, Davis found that junior college coaches who perceived their athletic directors to be more transformational than transactional or laissez-faire reported greater job satisfaction. Principles of transformational leadership have also been applied to coach and peer leadership in sport (Charbonneau et al., 2001; Rowold, 2006; Zacharatos et al., 2000). For example, Zacharatos et al. found that perceptions of greater transformational

peer leadership behaviors were associated with greater team satisfaction and effort. Bass (see Bass & Riggio, 2006; Weese, 1994) suggests that transformational leadership and its effects on followers' motivation, commitment, satisfaction, and other outcomes can be applied to many domains. Thus, this theory is adopted in the present study for understanding coach and peer leadership in the sport domain.

Coach Leadership

In sport, coach leadership has been the predominant area of study. In this perspective, coaches represent the leaders and athletes the followers. Several conceptual frameworks have been used to study coaching leadership/behaviors and athlete outcomes (see Horn 2002, 2008). Coaching behaviors significantly influence athletes' psychological responses, such as self-esteem and enjoyment, and team outcomes such as satisfaction and cohesion (e.g., Price & Weiss, 2000; Smoll, Smith, Barnett, & Everett, 1993; Trail, 2004; Weiss & Friedrichs, 1986). For example, coaches who provide more frequent positive feedback and show more care and concern for their athletes enhance athletes' feelings of enjoyment (e.g., Black & Weiss, 1992) and team harmony (e.g., Westre & Weiss, 1991). In the next section of this paper, I review theoretical perspectives on coaching behaviors and describe robust findings relevant to individual and team outcomes.

Multidimensional Model of Leadership

Chelladurai's (1980) multidimensional model of leadership is a sport-specific model designed to explain the coach-athlete relationship (see Figure 2). The model provides a sound framework for understanding effective coach leadership because it is

context-specific and accounts for antecedents and consequences of leader behaviors. In other words, Chelladurai's model assumes that effective leader behaviors vary as a function of coaches' personal characteristics, athletes' personal characteristics, and the situation in which they participate.

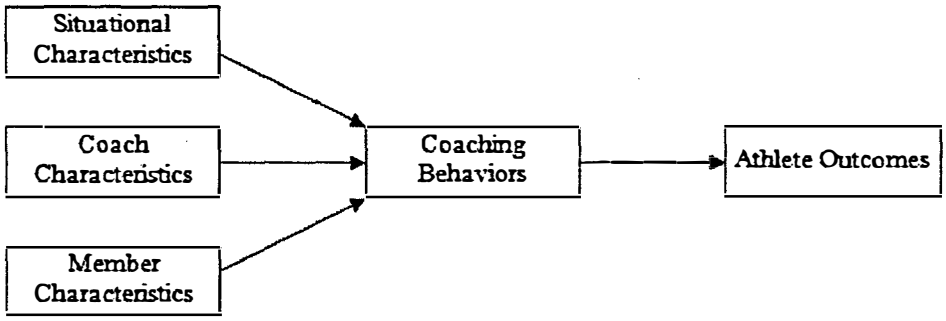

Figure 2. Simplified Multidimensional Model of Leadership

Coaching behaviors mediate the relationship between antecedents and outcomes, according to the multidimensional model of leadership. Athlete performance and satisfaction comprise the consequences of leadership behaviors, and situational, personal, and team member characteristics are antecedents to coaches' behavior. In other words, social-contextual characteristics (e.g., sport type, cultural values), the coach's personal and psychological characteristics (e.g., years of experience, gender, self-efficacy), and team members' personal and psychological characteristics (e.g., skill level, achievement orientation) contribute to coaches' behavioral decisions. In turn, coaching behaviors (assessed through athletes' perceptions) relate to athlete outcomes. Chelladurai (1980) hypothesized that optimal athlete performance and athlete satisfaction will occur when coaches exhibit behaviors compatible with situational needs and athletes' behavioral preferences.

Chelladurai (1990) specified five coaching behaviors that promote satisfaction and performance among athletes. Two behaviors denote motivation (i.e., positive feedback, social support), one denotes instrumental behavior (i.e., training and instruction), and two denote decision-making style (i.e., autocratic, democratic). When coaches provide social support, they demonstrate care and concern for and establish interpersonal relationships with athletes. For example, coaches who ask athletes about school or everyday life events are engaging in socially supportive behaviors. Positive feedback provides athletes with information about their progress toward performance or other goals. Training and instructional behaviors promote athletes' skill development such as structuring practice activities and teaching skills and techniques. Decision-making styles represent the degree to which coaches provide athletes with opportunities to have input into decisions about team goals, tactics, and strategies. Coaches who emphasize their own authority over athlete involvement are considered more autocratic, while coaches who allow athlete input are more democratic. In reality, coaches use some combination of both these styles (and others such as participative and consultative) to make decisions (Chelladurai & Haggerty, 1978).

More recently, Chelladurai (2001, 2007) expanded the multidimensional model to include transformational leadership principles. According to Chelladurai, transformational leaders attempt to alter situational characteristics (e.g., group goals) and member characteristics (e.g., beliefs, attitudes) to optimize positive team outcomes such as satisfaction and performance. For example, if a coach was not satisfied with the team image (e.g., lazy, undisciplined), a transformational leader would create a vision emphasizing hard work, teamwork, and accountability. Transformational coaching

behaviors are designed to positively influence athletes' values, emotions, and self-esteem, which in turn *transform* their behaviors to align with the coach's vision (Chelladurai, 2007).

Research studies have investigated various links in the multidimensional model, supporting relationships among antecedents, leader behaviors, and outcomes (see Chelladurai, 2007; Chelladurai & Trail, 2001). For example, member characteristics such as age/competitive level and nationality are associated with variability in preference for coaching behaviors. Japanese athletes showed a greater preference for social support compared to Canadian athletes' preference for positive feedback and training and instruction (Chelladurai et al., 1988).

Other research has tested the link between coaching behaviors and athlete outcomes. A higher frequency of positive feedback, social support, and training and instruction behaviors has been positively related to athlete satisfaction with coach leadership (Chelladurai, 1984; Horne & Carron, 1985; Riemer & Chelladurai, 1995; Schliesman, 1987; Weiss & Friedrichs, 1986). Athletes who perceive that coaches engage in more frequent training and instruction, positive feedback, social support, and democratic style report greater enjoyment, perceived competence, and intrinsic motivation (e.g., Amorose & Horn, 2000, 2001; Hollembeak & Amorose, 2005; Price & Weiss, 2000).

Coaching behaviors are also related to developing team cohesion (Gardner, Shields, Bredemeier, & Bostrom, 1996; Trail, 2004; Westre & Weiss, 1991). Group cohesion is defined as "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for

the satisfaction of member affective needs" (Carron, Brawley, & Widmeyer, 1998, p. 213). Task cohesion reflects the group's ability to work together toward common goals, while social cohesion refers to the degree to which group members like each other. For example, Westre and Weiss found that higher levels of coaches' training and instruction, social support, and positive feedback, and more frequent democratic behaviors, were associated with perceptions of greater task cohesion. Other research supports the notion that a participative style of decision-making (e.g., delegative, democratic) is related to greater perceptions of cohesiveness (Brawley, Carron, & Widmeyer, 1993; Carron & Chelladurai, 1981; Carron, Hausenblaus, & Eys, 2005; Gardner et al., 1996; Turman, 2003).

Cognitive-Mediational Model

Smoll and Smith (1989) developed the cognitive-mediational model of leadership to investigate coach-athlete relationships (see Figure 3). The model proposes that athletes' perceptions of coaching behaviors mediate the influence of actual coaching behaviors on athlete outcomes. Situational factors and coach and athlete individual differences influence the behaviors coaches exhibit. In contrast to the multidimensional model, which was developed with college and university athletes, the cognitive-mediational model was developed and customized for youth sport settings (organized sport, high school teams).

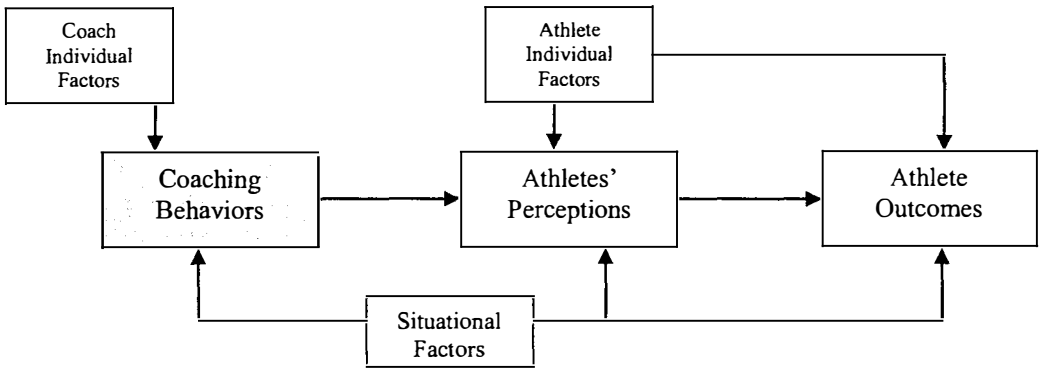

Figure 3. Simplified Cognitive-Mediational Model

Smoll and Smith (1989) noted that a comprehensive model of coach leadership should include situational variables, individual differences of leaders and followers, overt behaviors (i.e., coaching behaviors), and cognitive processes (e.g., athlete perceptions). Situational variables that may affect coaching behaviors include sport type, level of competition, practice or game context, and previous success or failure. The coach's personal characteristics (e.g., goals, motives) also directly influence their behaviors. Athletes' personal characteristics (e.g., age, gender, self-esteem) influence how coaches behave toward them and athlete outcomes include motivation, self-perceptions, and participation behavior.

Coaching behaviors are classified into reactive and spontaneous categories. Reactive coaching behaviors are those exhibited in response to athletes' behavior and performance. Reactive behaviors following desirable behaviors include reinforcement (e.g., "good play") and nonreinforcement (i.e., no response). Reactive behaviors following skill errors or undesirable behaviors include mistake-contingent encouragement (e.g., "good try"), mistake-contingent technical instruction (e.g., "next time, follow through toward your target"), punishment (e.g., "sit down until you can do it right"),

punitive technical instruction (e.g., "what was that?! Kick the ball sooner, come on!"), and ignoring mistakes. Spontaneous coaching behaviors are not contingent upon performance and include general technical instruction and general encouragement. Coaching behavior research using the cognitive-mediational model has focused on reactive behaviors to successful and unsuccessful performance because these behaviors are most likely to influence athletes' thoughts, emotions, and behaviors.

A considerable amount of research has demonstrated support for the cognitive-mediational model for understanding relationships between coach leadership and athlete outcomes (see Horn, 2008; Smoll & Smith, 2002). Smith and Smoll and their colleagues conducted a systematic line of research that highlights the role of coach feedback in athletes' achievement-related cognitions, behaviors, and affect. For example, Smith, Smoll, and Curtis (1979) found that coaches who were trained to use a *positive approach* (i.e., positive reinforcement for desirable behaviors, encouragement and instruction following skill errors, minimal punitive behaviors and non-responses) were associated with athletes who reported higher perceptions of baseball competence and post-season levels of self-esteem than did athletes who played for untrained coaches. Additional studies found that athletes with lower self-esteem at preseason assessment showed the largest improvement in self-esteem at postseason under trained coaches (Smoll et al., 1993). Several other studies have replicated these results, demonstrating that a *positive approach* for providing feedback and reinforcement enhances athletes' self-perceptions and motivation (e.g., Coatsworth & Conroy, 2006; Smith & Smoll, 1990; Smith, Zane, Smoll, & Coppell, 1983; Smoll et al., 1993).

Coaches' use of the *positive approach* has also been linked to athletes' level of enjoyment, feelings of anxiety, and rate of attrition. Smith, Smoll, and Barnett (1995) found that athletes who played for trained coaches reported higher levels of enjoyment and decreased levels of performance anxiety over the course of the season than did athletes who played for untrained coaches. Barnett, Smoll, and Smith (1992) found that boys who played for trained coaches were five times less likely to drop out of baseball the next season. In sum, coaches who use a *positive approach* to skill instruction are likely to have athletes who report higher self-esteem and enjoyment, lower anxiety, and greater motivation for continued participation the following season.

Motivational Approaches to Coach Leadership

In the previous two sections, I discussed two models of coach leadership that were designed specifically for the sport context. In the next section, I transition to motivational approaches that were designed in educational psychology primarily for the academic domain but have been successfully adopted and applied to the sport domain. In particular, competence motivation theory, self-determination theory, achievement goal theory, and self-efficacy theory have all been used as frameworks for understanding the relationship between coach leadership and athlete outcomes. I conclude with a summary of the commonalities among theories relative to coaching behaviors and athletes' psychosocial responses.

Competence Motivation Theory. Central to Harter's (1978, 1981) competence motivation theory is an individual's desire to develop and demonstrate competence. The desire to demonstrate competence is associated with engaging in mastery experiences and a preference for optimally challenging tasks. Successful mastery attempts coupled with

positive reinforcement from significant adults and peers increase perceptions of competence and control, positive affect, and motivation. Coaches are an important source of competence information for their athletes. Of particular interest to this study is how coaching behaviors influence athletes' perceptions of competence and affective and behavioral responses.

Several studies have shown support for the relationship between coach feedback and athletes' developmental outcomes. Horn (1985) examined the relationship between coaching behaviors and adolescent female softball players' perceived competence, perceived performance control, and expectancy for success. Contrary to findings in the Smith and Smoll studies, coaches who provided more frequent positive reinforcement in response to desirable performances had athletes who reported *lower* perceived competence. In contrast, coaches who provided more frequent criticism in response to undesirable performances had athletes who reported *higher* perceived competence. Horn explained these counter-intuitive findings based on whether the feedback was contingent or non-contingent to performance. Reinforcement was given in a non-contingent manner; that is, praise was disbursed for minimal performance, while criticism following unsuccessful performances was contingent because it contained information about how to correct errors and improve future attempts.

Black and Weiss (1992) extended Horn (1985) by examining the relationship between athletes' perceptions of their coaches' behaviors and psychological outcomes in youth swimmers. Athletes who reported their coach as providing more frequent praise plus instruction following desirable performances, and more frequent encouragement plus information following undesirable performances, reported higher levels of perceived

competence and success, enjoyment, and intrinsic motivation. Weiss, Amorose, and Wilko (2009) found similar results in that female adolescent soccer players who perceived their coaches to engage in more frequent positive and informational feedback following successful performance attempts reported higher perceptions of soccer competence, enjoyment, and intrinsic motivation. Likewise, Allen and Howe (1998) found that coach praise following good performances was associated with higher perceived competence among female adolescent field hockey players.

Consistent with Harter's (1978, 1981) model, Amorose (2002, 2003) studied relationships between reflected appraisals of significant others (coaches, parents, teammates) and self-appraisals (perceptions of competence) among middle school through college-age athletes. Perceptions of coaches' beliefs about athletes' competence were significantly related to athletes' own perceived sport competence. Given that coaches make decisions about playing time, provide feedback, and give skill instruction, coaches convey important information to athletes about their ability. Therefore, findings provide further support for the link between coaches' behaviors and athletes' self-perceptions. Together, results from studies based on competence motivation theory demonstrate that coaching behaviors foster athletes' perceptions of competence, positive affect, and motivation.

Self-Determination Theory. Self-determination theory (Deci & Ryan, 1985, Ryan & Deci, 2000, 2002) specifies that individuals actively seek achievement contexts that satisfy three psychological needs: competence, autonomy, and relatedness. The need for competence reflects a desire to successfully demonstrate abilities in an achievement domain. The need for autonomy represents the desire to feel that one's actions are self-

determined. Finally, the need for relatedness denotes a desire to feel connected with others. Individuals are more likely to experience intrinsic motivation and well-being when involved in activities that satisfy their needs for competence, autonomy, and relatedness. Sport as an achievement context means that coaching behaviors can facilitate or undermine intrinsic motivation through need satisfaction (Amorose, 2007; Amorose & Horn, 2000; Hollembeak & Amorose, 2005). How a coach provides feedback, structures practices, makes decisions, and fosters interpersonal relationships influences athletes' perceptions of competence, autonomy, and relatedness and, subsequently, motivation and other outcomes.

Research grounded in self-determination theory highlights the connections among coaching behaviors, need satisfaction, and intrinsic motivation. Amorose and Horn (2000), for example, found that coaches who provided more frequent positive and informational feedback and democratic behaviors, and less frequent punishment, ignoring of mistakes, nonreinforcement, and autocratic behaviors, reported higher perceived competence, self-determination, and intrinsic motivation. Other studies also found support for the relationship between athletes' levels of intrinsic motivation and perceptions of their coaches' positive, informational, and autonomy-supportive behaviors (e.g., Amorose & Anderson-Butcher, 2007; Amorose & Horn, 2001; Hollembeak & Amorose, 2005).

Coaches can use a variety of autonomy-supportive or controlling behaviors to influence athletes' beliefs and behaviors. Autonomy-supportive coaches provide athletes with choices, rationales, and rules for practice activities as well as acknowledge athletes' feelings, initiative, and independence (Mageau & Vallerand, 2003). Controlling coaches

use coercive means, excessive tangible rewards, and guilt-induced criticism to influence behavior. Amorose and Anderson-Butcher (2007) found that athletes who perceived their coaches to be higher in autonomy-supportive behaviors reported more favorable perceptions of competence and feelings of autonomy and relatedness, which in turn were positively related to self-determined motivation. Other studies have found a positive relationship between an autonomy-supportive coaching style and athletes' self-perceptions and motivation (e.g., Conroy & Coatsworth, 2007; Gagné, Ryan, & Bargmann, 2003; Pelletier, Fortier, Vallerand, & Briére, 2001; Reinboth, Duda, & Ntoumanis, 2004). In sum, coaching behaviors are thought to influence athletes' intrinsic motivation and well-being through satisfying needs for competence, autonomy, and relatedness within the self-determination framework.

Achievement Goal Theory. Achievement goal theory is another relevant theory for understanding the relationship between coaches' behaviors and athletes' achievement cognitions and behaviors (Ames, 1984; Nicholls, 1984). Specifically, the learning environment coaches create can have an impact on athletes' psychological responses and motivation. According to Ames (1992), a motivational climate in sport settings refers to how coaches design practices, provide feedback, group athletes, and evaluate performance. Two types of climates are emphasized in the literature—task-involving and ego-involving. In a higher task-involving climate, athletes perceive that coaches emphasize improvement, learning, and effort, and each member feels like an integral part of the team. In a higher ego-involving climate, athletes perceive that coaches place an emphasis on favorable comparison to others, punishment for mistakes, and exclusive

attention to the most talented athletes. Athletes' perceptions of task- and ego-involving climates are associated with their self-perceptions, affective responses, and motivation.

Several studies have looked at the relationship between the coach-created motivational climate and athletes' self-perceptions and motivation. In an intervention study with youth martial arts participants, Theeboom et al. (1995) compared youth participants who were taught under one of two conditions: mastery (i.e., task-involving) or performance (i.e., ego-involving) climates. Children in the mastery-oriented group exhibited greater enjoyment, perceptions of competence, and intrinsic motivation than did children in the performance-oriented group. Other researchers have found that perceptions of a task-involving climate are related to greater levels of enjoyment, interest, and intrinsic motivation (Newton & Duda, 1999; Sarrazin, Vallerand, Guillet, Pelletier, & Cury, 2002; Seifriz, Duda, & Chi, 1992; Vazou, Ntoumanis, & Duda, 2006). Task-involving climates are also related to decreased feelings of anxiety by de-emphasizing social comparison and focusing on personal effort and improvement (e.g., Seifriz et al., 1992; Smith et al., 2007; Vazou et al., 2006). Thus, coaches who construct practices that focus on learning, effort, and improvement are more likely to have athletes who feel less anxious about their performance.

Self-Efficacy Theory. Self-efficacy is an individual's belief about executing skills successfully to achieve a certain outcome. According to Bandura (1977), four sources of information enhance or undermine self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional states. Mastery experiences refer to successful skill attempts that provide individuals with ability information for future performances. Second, individuals gain information from vicarious experiences such as

watching others perform the task (i.e., modeling). Verbal persuasion refers to information that modifies self-efficacy such as feedback and reinforcement. Finally, emotional states such as arousal and anxiety are thought to influence self-efficacy. Self-efficacy theory has been applied to understanding athletes' self-efficacy, coaches' efficacy, and teams' collective efficacy. In general, self-efficacy beliefs are predictive of performance, anxiety, positive affect, and goal achievement (see Feltz & Lirgg, 2001).

Feltz and colleagues (Feltz, Chase, Moritz, & Sullivan, 1999; Lee, Malete, & Feltz, 2002; Malete & Feltz, 2000) developed a model of coaching efficacy based on Bandura's (1997) self-efficacy theory and Denham and Michael's (1981) model of teacher efficacy. Coaching efficacy refers to the degree to which coaches believe they can affect the learning and performance of their athletes along four dimensions—game strategy, motivation, technique, and character building. Game strategy refers to coaches' beliefs about their ability to instruct during competition and lead the team to a successful performance. The motivation dimension reflects coaches' beliefs in their ability to influence the psychological states of their athletes. Technique efficacy represents coaches' beliefs in their ability to teach skills and give instruction. Finally, character building efficacy refers to coaches' confidence in their ability to influence the sportsmanship of their athletes.

Feltz et al. (1999) posited that coaches' personal characteristics (i.e., experience, past performance) and external factors (e.g., perceived team ability; community, parent support) influence coaching efficacy beliefs. Coaching efficacy beliefs, in turn, influence what behaviors coaches exhibit, athlete satisfaction with the coach, athlete efficacy beliefs, and team performance. Research supports some of these linkages. For example,

coaches' experience and perceptions of social support were strong predictors of coaching efficacy. Also, high-efficacy coaches use more praise and encouragement and had greater player satisfaction and winning percentages than lower efficacy coaches (see Feltz & Lirgg, 2001).

Coaching efficacy and behaviors may impact team efficacy beliefs, known as collective efficacy. Collective efficacy represents the team's shared competence beliefs that they can successfully respond to the demands of the situation (Myers & Feltz, 2007; Zaccaro, Blair, Peterson, & Zazanis, 1995). In other words, collective efficacy symbolizes a team's confidence in their ability to work together to accomplish team goals. Vargas-Tonsing, Warners, and Feltz (2003) investigated the relationship between coaching efficacy and collective efficacy in female high school volleyball teams. The motivation dimension of coach efficacy predicted collective efficacy---coaches who mentally prepared teams for games and built team cohesion were more likely to enhance feelings of collective efficacy than coaches who were less confident about engaging in these behaviors.

Heuristic Model of Coaching Effectiveness

Horn (2002, 2008) synthesized and integrated relevant constructs and relationships of previously discussed theories (e.g., multidimensional model, cognitive-mediational model, motivation theories) to develop a heuristic model of coaching effectiveness (see Figure 4). Horn (2008) emphasizes three key points in her model. First, sociocultural factors, organizational climate, and coaches' personal characteristics serve as antecedents to coaches' expectations, values, goals, beliefs, and behaviors. Second, Horn situates coaching behaviors at the core of the model because research on coaching

effectiveness has shown that coaching behaviors (e.g., feedback, decision-making style) can positively or negatively affect athletes' psychosocial and behavioral outcomes. According to the model, coaching behaviors influence athletes' participation behavior directly or indirectly through athletes' interpretations of coaches' behaviors and through their own psychological outcomes (e.g., self-perceptions). Third, situational factors (e.g., competitive level, sport type) and athletes' individual differences (e.g., gender, psychological traits) moderate the relationships among coaching behaviors, psychological responses, and participation behavior. Because Horn's model is inclusive of antecedents, coach and athlete variables, and psychosocial and behavioral consequences representative of relevant themes in the sport domain, it is a useful framework for understanding coaching effectiveness.

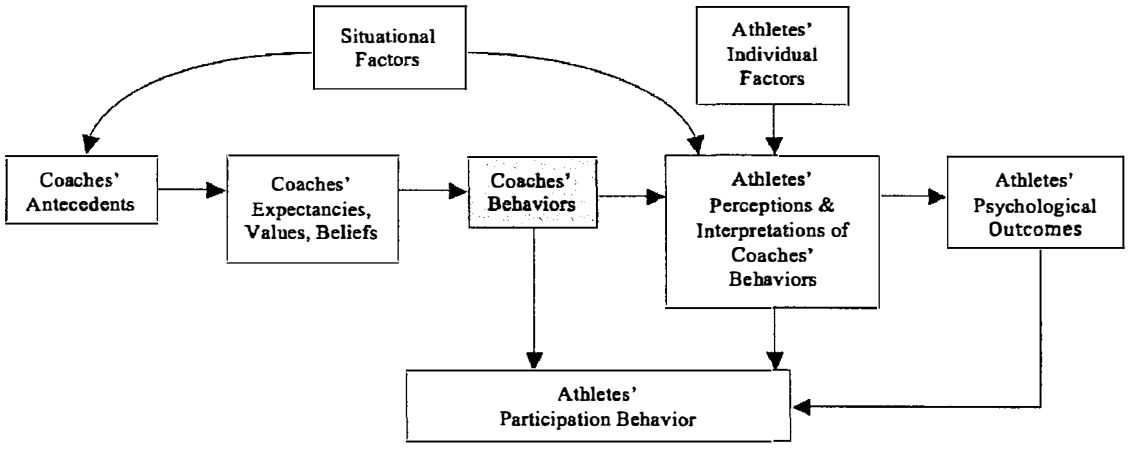

Figure 4. Horn's (2002, 2008) Model of Coaching Effectiveness (simplified)

Transformational Coach Leadership

The relationship between coaching behaviors and athlete outcomes has also been explored based on a transformational leadership approach (Bass, 1985; Bass & Avolio, 1994). In this approach, leadership includes laissez-faire, transactional, and transformational behaviors. Transformational leadership behaviors (i.e., 4I's) include inspirational motivation (e.g., creating a vision), idealized influence (e.g., modeling behaviors or values), individualized consideration (e.g., considering followers' individual needs), and intellectual stimulation (e.g., encouraging follower creativity). Thus, studies using this approach investigate athletes' perceptions of their coaches' transactional, transformational, and laissez-faire leadership behaviors.

Rowold (2006) examined coaches' effectiveness of using transformational leadership behaviors. Martial arts students rated their coaches' leadership behaviors as well as their coach's effectiveness, amount of extra effort they expend, and the frequency at which they train. Using the Multifactor Leadership Questionnaire (MLQ-5X), students rated their coaches on the full range of leadership behaviors (i.e., laissez-faire, transactional, transformational). Higher ratings of inspirational motivation, idealized influence, and individual consideration were positively related to students' effort, satisfaction with the coach, and frequency of attending monthly training sessions. Thus, coaches who build trust and confidence in students, consider individual concerns and strengths, and emphasize a collective sense of values are associated with students who report greater satisfaction, expend greater effort, and show greater commitment to training.

Other research has examined the link between coaches' transformational leadership behaviors and athlete outcomes. Charbonneau et al. (2001) tested a model in which coaches' transformational leadership behaviors influence athlete performance through effects on intrinsic motivation. The authors contended that, because transformational leadership behaviors encourage athletes to think for themselves, problem solve, and focus on achieving tasks, such behaviors will increase intrinsic motivation and subsequent performance. Individual and team sport collegiate athletes rated their level of intrinsic motivation and perceptions of coaches' transformational leadership. Athlete performance (i.e., as rated by coaches, relative to others and improvement) was provided at the end of the season. Intellectual stimulation and individualized consideration were positively related to intrinsic motivation, which subsequently predicted athlete performance. Thus, coaches who encourage athletes to solve problems and recognize their individual contributions can promote athletes' intrinsic motivation and performance. Collectively, findings from these two studies provide support for using transformational leadership theory to study coaching behaviors and athlete outcomes.

Summary of Coach Leadership

Coaches play a central role in shaping athletes' psychological and behavioral responses to participation. More frequent feedback and reinforcement, social support, training and instruction, autonomy-supportive behaviors, and transformational leadership behaviors are positively related to athletes' perceptions of competence, intrinsic motivation, enjoyment, cohesion, and collective efficacy. In addition, coaches who structure practices and competitive environments with a focus on a mastery motivational

climate are more likely to cultivate positive athlete outcomes. While the majority of the research on sport leadership has accentuated the role of the coach, teammates offer alternative sources of leadership within teams. The next section presents theory and research related to team members as leaders.

Peer Leadership

Youth have the opportunity to experience various leadership roles in school, community, and sport programs. In doing so, youth interact with their peers and adults to foster positive outcomes such as community and civic engagement and psychosocial development (e.g., self-perceptions, prosocial behaviors) (Hannum, Martineau, & Reinelt, 2007). The development of leadership in youth has received considerable attention (van Linden & Fertman, 1998). Some examples of youth development programs that target leadership as an outcome include the Girl Scouts, 4-H, Boys and Girls Clubs, and the Young Women's Leadership Program at the University of Virginia. These programs teach youth leadership skills such as communication, problem solving, cooperation, and teamwork. The goal is to encourage youth to make a difference in their own life and the lives of others (i.e., friends, neighbors, communities). For example, the Girl Scouts of the USA Research Institute conducted a study of adolescent girls' perceptions of leadership. Girls reported that helping others, sharing knowledge and skills, and changing the world for the better were key reasons for becoming a leader (Schoenberg, Salmond, & Fleshman, 2008). Likewise, they felt that leaders are caring, honest, nice, motivated, organized, make decisions, resolve conflicts, take responsibility,

and act as role models. Thus, for these girls, leadership is associated with a variety of personal qualities and behaviors.

Sport is another context in which youth leadership is a desired goal. Youth sport athletes are constantly interacting with their teammates in ways that construe leadership. In the next section, I discuss the notion of peer leaders in sport.

Peer Leadership in Sport

Coaches occupy a prescribed leadership position within a team (Carron et al., 2005). This prescribed role is different from a less formal role of an emergent leader (i.e., from within the ranks of the team). Team captains are an example of how team members occupy prescribed leadership roles in sport. However, a peer leader within a team may not be appointed or elected as a team captain; rather, he or she may emerge as one of the individuals who guides the team through a difficult fitness session (i.e., achieving a common goal). Recent research supports the notion that both team captains and other team members occupy leadership roles (e.g., Loughead & Hardy, 2005; Loughead, Hardy, & Eys, 2006), thus making it important to understand the role of team members as leaders in sport. While it is not uncommon to hear athletes refer to older players (e.g., seniors on a college team) or more skilled players as leaders, peer leadership in sport is more complex than simply being characterized by age or skill level. To date, only a handful of studies have explored the characteristics of peer leaders.

Team members as leaders have received considerably less attention than coaches as leaders. Research on peer leadership in sport has demonstrated a variety of correlates of effective peer leaders such as skill level, instrumentality, expressiveness, and perceived competence (e.g., Glenn & Horn, 1993; Rees & Segal, 1984). Additionally,

limited research has investigated peer leader behaviors and their influence on team outcomes (e.g., Glenn, 2003; Moran, 2003). Given that peer leadership in sport has been examined through a narrow lens, a need exists to investigate the role of team members as leaders in sport.

Peer Leadership and Personal Characteristics

Numerous personal characteristics have been related to peer leadership. Several studies have examined *teammates' ratings* of their peer leaders. Gill and Perry (1979) examined peer leadership on college softball teams and found that older, more experienced starters were ranked by their teammates as having the most leadership influence on the team. Recently, Loughead et al. (2006) found similar results in that leaders were more often identified by their teammates as those who had been on the team for more than three years. Also, formal and informal athlete leadership was more frequently associated with starters than nonstarters. Therefore, team members used personal characteristics such as age and experience to identify peer leaders on their team.

Other studies of peer leadership in sport have examined role differentiation (e.g., instrumentality or expressiveness) as a correlate of effective peer leadership. For example, Rees (1983) and Rees and Segal (1984) examined differences between instrumental and expressive leaders on male college intramural basketball and Division I football teams. Instrumental leaders are those who are influential in the task-oriented success of the group, while expressive leaders focus on enhancing team harmony. Role differentiation views instrumentality and expressiveness as dichotomous; that is, a leader cannot provide both instrumental and expressive behaviors at the same time.

In the first study, Rees (1983) conducted a season-long investigation of teammates' views about instrumental and expressive leadership. Contrary to hypotheses, Rees found that teammates rated leaders as demonstrating both instrumental and expressive leadership behaviors. These results suggest that effective team leaders possess a concern for group tasks and interpersonal skills that enhance team cohesion. In the second study, Rees and Segal (1984) found that leaders demonstrated a combination of instrumental and expressive behaviors on Division I football teams. However, contrary to the previous study, Rees and Segal found that teammates identified leaders as specializing in instrumentality or expressiveness. The authors also used interpersonal attraction (i.e., liking) and respect to determine leadership within teams. Regardless of leadership type (i.e., instrumental or expressive), leaders were rated higher in interpersonal attraction and respect than those who were not leaders. Taken together, these studies suggest that team members are seen as leaders if they are instrumental and expressive and if they engage in respectful interpersonal interactions with team members.

Other researchers have investigated the notion that interpersonal attraction is essential for leadership in sport (Tropp & Landers, 1979; Yukelson, Weinberg, Richardson, & Jackson, 1983). For example, Yukelson et al. examined the relationship between interpersonal attraction and leadership among college baseball and soccer players. Players were asked to rate teammates' abilities in two categories: off-the-field friendship and on-the-field leadership. Coaches provided a skill level assessment. Higher off-the-field friendship ratings were associated with higher leadership ratings. Furthermore, senior members of the team who were more skilled and rated higher in internal locus of control were seen by their teammates as higher in leadership. Therefore,

leaders were associated with being the most skilled players and those who possessed positive social interaction skills and beliefs that their behaviors are under their control.

Several other studies have shown that peer leaders use both social and task-oriented behaviors (Dupuis, Bloom, & Loughead, 2006; Eys, Loughead, & Hardy, 2007; Loughead et al., 2006; Magyar, 2003; Todd & Kent, 2004). For example, Todd and Kent investigated instrumental and expressive qualities of peer leadership among adolescent athletes. Participants were asked to think of their ideal peer leader (i.e. someone they respect or look up to) while completing a questionnaire to assess the instrumental and expressive qualities of peer leaders. Results supported previous findings by Rees (1983; Rees & Segal, 1984) in that ideal peer leaders were perceived as having both instrumental and expressive characteristics. Specifically, Todd and Kent found that ideal peer leaders were perceived by their teammates as working hard in games and practices and respecting their fellow teammates.

In a series of studies, Loughead and colleagues (Eys et al. 2007; Loughead et al., 2006) examined task, social, and external behaviors of peer leaders. External behaviors included representing the team's interest in meetings with coaching staff, organizing and participating in fundraising, community involvement, and buffering team members from outside distractions. Loughead et al. asked college team sport athletes to identify their team leaders (i.e., formal) and peer leaders (i.e., informal) based on a variety of behavioral characteristics. Both formal and informal peer leaders were perceived as engaging in task, social, and external behaviors. Eys et al. further demonstrated that athlete leaders use task, social, and external behaviors. Together, these results support the notion that leaders engage in various behaviors that focus on achieving group goals,

satisfying members' interpersonal relationships, and representing the group to coaches and the media.

Up to this point, teammate ratings of peer leadership have been associated with task, social, and external roles, interpersonal attraction, and ability level. Additional research has examined how *coach ratings* of players' ability, position on the field, and social and emotional characteristics correlate with peer leadership. In a sample of youth male soccer players, Lee, Coburn, and Partridge (1983) found that team leaders were more likely to occupy positions that required higher task interdependence and a greater frequency of interactions with teammates. Klonsky (1991) found similar results for high school baseball players in that higher coach ratings of peer leadership were associated with players who occupied more central and interactive positions on the field (i.e., infielder). Klonsky also found that team leaders rated by coaches were higher in competitiveness, responsibility, acceptance, dominance, aspiration, willingness to be daring, and emotional expression.

The studies reviewed thus far suggest that correlates of peer leadership differ based on teammates' and coaches' assessments. Glenn and Horn (1993) used three perspectives—teammates, coach, and self—to examine peer leadership in relation to perceived soccer competence, global self-worth, gender-role orientation, skill level, and position centrality among adolescent female soccer players. Teammates and coaches rated skill as the strongest index of peer leadership. For self-ratings, psychological masculinity (e.g., instrumentality), psychological femininity (e.g., expressiveness), and perceived soccer competence were all contributors to effective peer leadership. This

study demonstrates the need for a multidimensional approach to assessing effective peer leadership in sport.

Moran and Weiss (2006) replicated Glenn and Horn (1993) by assessing female high school soccer players on the same variables (i.e., perceived competence, instrumentality, expressiveness, and skill level) and using teammate, coach, and self ratings. In addition, Moran and Weiss extended Glenn and Horn by including male soccer players and social characteristics of peer leadership. Similar to Glenn and Horn, teammates and coaches rated skill as most important, and higher self-ratings were associated with higher levels of perceived competence, instrumentality, and expressiveness. This finding also emerged for teammates' ratings of boys' leadership. Moran and Weiss also found that friendship quality and peer acceptance were positively related to self-ratings of leadership in girls. In other words, girls judged themselves higher in leadership if they felt accepted by their teammates and reported higher friendship quality (e.g., companionship, loyalty, similarity). Moran and Weiss suggested that psychological variables, social variables, and ability play an important role in predicting peer leadership behaviors in sport, and that *who* does the rating makes a difference in what is considered effective peer leadership.

Zacharatos et al. (2000) also emphasized the importance of using multiple perspectives to assess leadership. They were interested in the relationship between peer leaders' use of transformational behaviors (i.e., inspirational motivation, idealized influence, intellectual stimulation, individualized consideration) and team outcomes such as satisfaction and effort. Leadership behaviors were assessed using teammate, coach, and self-ratings with a sample of adolescent athletes representing a variety of sports.

Coaches rated athletes' skill level. Higher skilled members of the team saw themselves as leaders, as did their coaches and teammates. After controlling for skill level, peer leaders rated as higher in transformational behaviors were viewed as enhancing team satisfaction and evoking effort from their teammates. Zacharatos et al. provided further support for using coach, teammate, and self-ratings, and that skill level, transformational leadership, and group satisfaction and effort are important correlates of peer leadership.

Peer Leadership and Team Outcomes

Several studies have examined peer leadership effectiveness by investigating level of team satisfaction, team cohesion, and collective efficacy (Eys et al., 2007; Glenn, 2003; Moran, 2003; Watson, Chemers, & Preiser, 2001). For example, Eys et al. found that task, social, and external peer leadership roles were related to players reporting greater satisfaction with team performance and integration (i.e., degree to which teammates share the same goal). Other research points to the relationship between peer leadership and team cohesion (i.e., the group's sense of unity). Moran found that higher self, teammate, and coach ratings of peer leadership were associated with higher perceptions of task and social cohesion among male adolescent players. In contrast, for girls, higher teammate ratings of leadership were associated with social cohesion only. Glenn found that peer leaders who were rated by their teammates as using more frequent democratic behaviors, social support, positive feedback, and training and instruction were associated with athletes who reported higher task and social cohesion.

Collective efficacy (i.e., team confidence) is the final team outcome of interest in these studies. Peer leadership behaviors and perceptions of confident peer leadership are important contributors to feelings of collective efficacy. For example, Glenn found that

teammates who perceived their peer leaders as engaging in more frequent democratic behaviors, social support, positive feedback, and training and instruction reported higher collective efficacy. These studies provide initial support for the relationship between peer leadership characteristics and behaviors and team outcomes. Further investigation is needed on the relationship of peer leadership effectiveness with team dynamics.

Summary of Peer Leadership

The research studies reviewed in this section demonstrate a number of correlates associated with peer leaders in sport. More skilled athletes tend to be viewed as leaders; however, leadership has also been associated with a variety of psychological and social variables and behaviors. Likewise, peer leaders use both instrumental and expressive behaviors as well as social support, positive feedback, training and instruction, and democratic leadership style.

Perhaps the variability of characteristics and behaviors used to describe peer leaders is due in part to the array of approaches used to assess peer leadership. Of the studies reviewed, coach ratings were used in two studies (Klonsky, 1991; Lee et al., 1983), and coach and teammate ratings were used in the majority of studies (e.g., Gill & Perry, 1979; Rees, 1983; Rees & Segal, 1984; Todd & Kent, 2004; Tropp & Landers, 1979; Yukelson et al., 1983). However, more recent research on peer leadership in sport has used a combination of coach, teammate, and self-ratings (Glenn, 2003; Glenn & Horn, 1993; Kozub & Pease, 2001; Loughead & Hardy, 2005; Moran & Weiss, 2006; Zacharatos et al., 2000). By using coach, teammate, and self-ratings, researchers were able to demonstrate that peer leaders are seen differently among all members of a sport team. To understand the construct of a peer leader, it is essential to account for more than

one perspective (e.g., coach and teammate, self and teammate, coach and self) because results may vary and provide unique insight (e.g., Glenn & Horn, 1993; Moran & Weiss, 2006). Therefore, self- and teammate-ratings were used in Study 1 to provide a more diverse representation of peer leadership than coach ratings, which are more strongly related to athlete skill level.

Thus far, I have discussed the unique influence of coach and peer leadership relative to athlete and team outcomes. The next section presents research related to the joint effects of coach and athlete leadership.

Combined Influence of Coach and Peer Leadership on Individual and Team Outcomes

Coaches and athletes are critical leaders of sport teams. Substantial research stresses the impact of coaching behaviors on athlete and team outcomes (see Horn, 2002, 2008). Likewise, athletes (i.e., peer leaders) fulfill leadership roles and their behaviors have also been linked to individual and team outcomes (e.g., Glenn, 2003; Moran & Weiss, 2006). Given that coaches and peer leaders are important facets of sport teams and their leadership is essential for team functioning, further research is needed to understand their unique and combined influence on team and individual outcomes. To date, only a handful of studies have examined the collective relationships among coach and athlete leadership with team and individual outcomes (Glenn, 2003; Kozub & Pease, 2001; Loughead & Hardy, 2005; Wildman, 2006). In these studies researchers: (a) examined the association between coaching behaviors and peer leadership, (b) compared coach and athlete leader behaviors, and (c) considered the concurrent influence of coach and athlete leadership on team outcomes. For example, Wildman (2006) investigated college

athletes' preference for peer leader behaviors when coaching behaviors were autocratic, democratic, or collaborative. Greater use of autocratic behaviors on the part of the coach was related to athletes seeking less feedback, support, conflict resolution, communication, and prosocial behaviors from peer leaders. Athletes who played for more democratic or collaborative coaches preferred peer leaders who showed care and concern, fostered a warm environment, provided feedback, and resolved conflicts. Wildman also found that peer leaders who played for autocratic or democratic coaches provided skill instruction and modeled appropriate behaviors (e.g., hard work). Thus, regardless of coaching behaviors, peer leaders were effective at creating structure and directing the team toward goals.

Because coaches and peer leaders serve different functions on a team, some studies have contrasted coach and athlete leadership behaviors. Loughead and Hardy (2005) concurrently examined peer and coach leadership behaviors on male and female interdependent teams. The Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) was used to assess coaching behaviors and a modified version of the same scale measured teammates' perceptions of peer leader behaviors. Coaches were perceived by their players as providing greater frequency of training and instruction and autocratic decision-making behaviors than peer leaders. Conversely, players perceived peer leaders to exhibit greater social support, positive feedback, and democratic decision-making behaviors than coaches. The authors interpreted their findings to mean that peer leader behaviors counterbalance coach leadership behaviors; peer leader behaviors were seen as more motivational compared to the coach's task-focused behaviors.

Glenn (2003) examined a model of sport leadership that included coach and peer leader characteristics and behaviors and team outcomes among adolescent male and female teams. Athletes (i.e., team members) rated their coaches and peer leaders on decision-making style (i.e., autocratic, democratic), training and instruction, social support, and positive feedback. Coaches rated higher in democratic behaviors and peer leaders rated higher in autocratic behaviors were associated with team members who reported higher amotivation. In addition, coach and peer leaders who exhibited more frequent democratic behavior, training and instruction, social support, and positive feedback were associated with athletes who reported higher team cohesion and collective efficacy. Finally, athletes perceived coaches and peer leaders to exhibit similar frequency of positive feedback, social support, training and instruction, and democratic and autocratic behaviors. These findings contrast those of Loughead and Hardy (2005) who found that peer leader behaviors were seen as more motivational compared to task-focused coach behaviors. Glenn concluded that coach and peer leaders display the same behaviors and these behaviors exhibit a similar relationship with team outcomes.

Coach and peer leadership behaviors are related but the exact nature of their relationship remains unclear. For example, Glenn (2003) found that team members perceived coach and athlete leadership behaviors to be similar, while Loughead and Hardy (2005) demonstrated that coaches and athletes fulfill different leadership roles within the team. Other studies have found that coaching behaviors (e.g., democratic decision style) are related to the type of peer leader behaviors preferred by team members (e.g., social support) (Kozub & Pease, 2001; Wildman, 2006). While previous research provides some insight into the combined influence of coach and peer leadership, future

research is needed to clarify how coaches and peer leaders work together to modify individual and team outcomes.

Coach and peer leadership are essential components of sport teams. The study of coach leadership is extensive and demonstrates the powerful influence coaches have on athlete outcomes. Research on peer leadership in sport is growing; however, much of this research has demonstrated that peer leaders possess a variety of qualities and behaviors that make an impact on team members' feelings of cohesion and collective efficacy. More research is needed to understand the nature of peer leadership. To further explore peer leadership, the following two studies delve into characteristics and behaviors of peer leaders, the relationship between peer leadership behaviors and team outcomes, and the unique and concurrent influence of coach and peer leadership on individual and team outcomes.

Purposes of Study 1

Much of the research on peer leadership in sport has studied correlates such as characteristics and behaviors. Other studies (Glenn, 2003; Glenn & Horn, 1993; Moran & Weiss, 2006) have used a theory-driven approach to understand peer leadership in sport, shedding light on conceptually-relevant relationships among leadership qualities, leadership behaviors, and team outcomes. Thus, the future of peer leadership in sport research should be grounded in theory (Hollander, 1978; Northouse, 2004). Therefore, the purpose of Study 1 was to investigate peer leadership effectiveness based on the theory of transformational leadership.

Previous research provides a sound rationale for applying transformational leadership theory to the study of peer leadership. For example, personal characteristics such as perceived competence and peer acceptance, among others, are key correlates of effective peer leadership (e.g., Glenn & Horn, 1993; Moran & Weiss, 2006). These personal characteristics are similar to characteristics of transformational leaders. According to Bass and Riggio (2006), transformational leaders show confidence, initiative, social skills, and prosocial qualities that foster followers' liking, trust, unity, and group confidence. Transformational leadership theory would suggest that peer leaders in sport are associated with being confident in their abilities, intrinsically motivated, and accepted and liked by their teammates, as well as doing the right thing and treating others with respect.

Several key features of transformational leadership theory demonstrate its relevance for studying peer leadership in sport. First, peer leaders exhibit *idealized influence* when they lead by example. Second, peer leaders who use *inspirational motivation* are optimistic about what the team can accomplish and set high standards for achievement (Bass, 2008). Third, peer leaders exemplify *intellectual stimulation* by helping teammates engage in problem solving. Fourth, *individualized consideration* is evident when peer leaders think about and acknowledge the needs of teammates (Bass & Riggio, 2006). Similar to aspects of task- and social-oriented behaviors, peer leaders recognize the individuality of each athlete and help them achieve individual and group goals (Bass, 2008; Bass & Riggio, 2006).

Transformational leadership behaviors are also influential for outcomes such as satisfaction, commitment, self-efficacy, collective efficacy, and performance (Bass &

Riggio, 2006). Similar outcomes are relevant for assessing positive team outcomes in sport. For example, effective peer leadership has been associated with cohesion, satisfaction, and collective efficacy (e.g., Glenn 2003; Moran, 2003). Therefore, the relationship between transformational leadership and team outcomes is consistent with theoretical principles and warrants further exploration.

Thus, based on transformational leadership theory and previous research, the purpose of Study 1 was to examine relationships among characteristics of peer leaders, their behaviors, and team outcomes (see Figures 5 and 6). First, this study replicated and extended previous research (Glenn, 2003; Glenn & Horn, 1993; Moran & Weiss, 2006) by examining the relationship of perceived competence, peer acceptance, intrinsic motivation, and behavioral conduct with self and teammate ratings of peer leadership behaviors among female soccer players. Second, this study replicated Glenn (2003) and Moran (2003) by examining the relationship of self- and teammate-rated peer leadership behaviors with team outcomes of task and social cohesion and collective efficacy.

Several hypotheses were forwarded based on transformational leadership theory (Bass, 1990; Bass & Avolio, 1994) and Glenn's (2003) research. Recall that confidence, prosocial skills, and initiative are associated with transformational leaders; thus, higher levels of perceived competence, intrinsic motivation, perceived peer acceptance, and perceived behavioral conduct should be related to higher ratings of peer leadership effectiveness (i.e., self and teammate ratings of peer leadership). Second, effective peer leadership (self- and teammate-rated) should be related to higher perceptions of team cohesion and collective efficacy. This hypothesis stems from studies by Glenn (2003) and

Moran (2003) and supports the notion that transformational leaders enhance follower outcomes (e.g., group confidence).

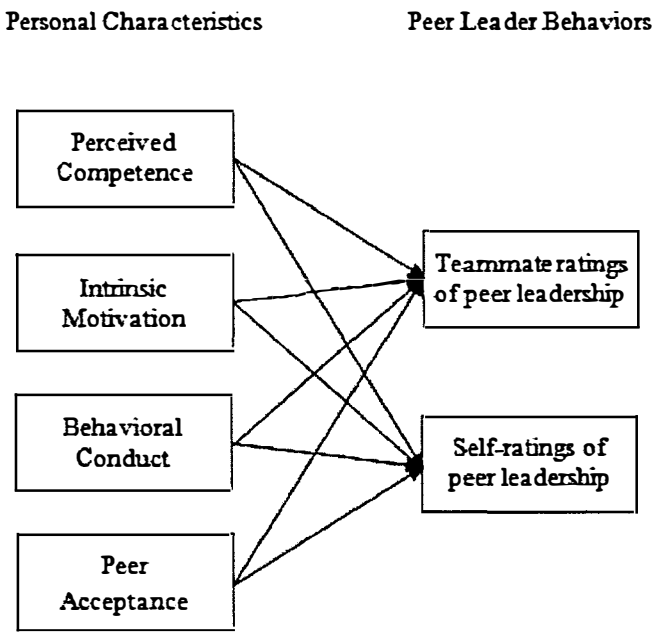

Figure 5. Relationship Between Personal Characteristics and Peer Leadership Behaviors

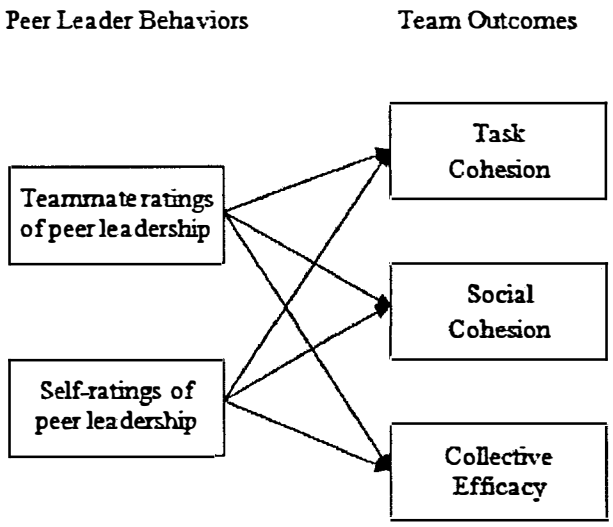

Figure 6. Relationship Between Peer Leadership Behaviors and Team Outcomes

CHAPTER II

STUDY 1

Method

Participants

Participants were adolescent female soccer players ($N = 191$) who were members of U-15, U-16, U-17, and U-18 competitive travel teams. United States Youth Soccer specifies a team age-group criterion based on an August 1st cut-off date. For example, in 2007 U-15 teams include athletes born between August 1, 1992 and July 31, 1993. Participants ranged in age from 14 to 18 years ($M = 16.09$, $SD = .98$), had played soccer for about 10 years ($M = 9.8$, $SD = 2.0$), and had played on their current club team for about 4 years ($M = 3.8$, $SD = 2.2$). The majority were Caucasian (88.4%), while others described themselves as African-American (3.7%), Hispanic (5.3%), Multi-ethnic (2.1%), and Native-American (.5%). Criteria for study eligibility included: (a) athletes needed to have played on their current team for at least one season or 6 months to allow for sufficient time with their teammates to rate peer leadership and team outcomes, and (b) teams needed to have at least four players complete the questionnaire so that peer leadership ratings for each individual represented multiple teammate ratings.

Selection of adolescent female athletes competing in an interdependent sport was important for several reasons. First, in sport teams, teammates rely on each other to

achieve task or performance goals, which is in line with Northouse's (2004) definition of leadership as a process involving social influence within a group to achieve a common goal. Second, adolescent females were chosen because peer influence and support are important aspects of the sporting experience (see Partridge et al, 2008; Weiss & Stuntz, 2004). Thus, participants value the relationships and interactions they have with peer leaders and other teammates. Third, adolescent athletes possess the cognitive abilities to discern social, emotional, instrumental, and other leadership qualities and behaviors among their peers.

Measures

Participants completed a series of measures to assess personal characteristics, peer leadership behaviors, and team outcomes. In the following sections, I describe psychometric data, items, and response format for each measure.

Personal Characteristics

Perceived soccer competence. The athletic subscale of the Self-Perception Profile for Adolescents (Harter, 1988) was used to assess athletes' perceived soccer competence (see Table 1). Items were modified to be specific to soccer. The subscale consists of five items in a structured alternative response format. Participants first choose between two statements that best describe their feelings, and then indicate whether the statement is really true or sort of true for them. Responses range from low (1) to high (4) perceived competence. Reliability and validity have been previously established with adolescent sport participants (e.g., Black & Weiss, 1992; Moran & Weiss, 2006).

Table 1

Perceived Soccer Competence Items

1. Some players do very well at soccer BUT Other players don't feel that they are very good when it comes to soccer.
2. Some players think they could do well at just about any new soccer skill BUT Other players are afraid they might not do well at a new soccer skill.
3. Some players feel that they are better than others their age at soccer BUT Other players don't feel they can play as well.
4. Some players don't do well at new soccer skills BUT Other players are good at new soccer skills right away.
5. Some players do not feel that they are very good at soccer BUT Other players feel they *are* very good at soccer.

Perceived behavioral conduct. The behavioral conduct subscale of the Self-Perception Profile for Adolescents (Harter, 1988) assessed athletes' perceptions that they do the right thing, act the way they are supposed to, and avoid getting in trouble (see Table 2). The subscale consists of five items in a structured alternative response format. Scores range from low (1) to high (4) perceived behavioral conduct. Previous research demonstrated reliability and validity with adolescent physical activity participants (Ebbeck & Gibbons, 1998, 2003).

Table 2

Perceived Behavioral Conduct Items

1. Some players usually do the right thing BUT Other players often don't do what they know is right.
2. Some players often get in trouble for things they do BUT Other players usually *don't* do things that get them in trouble.
3. Some players feel really good about the way they act BUT Other players *don't* feel that good about the way they often act.
4. Some players do things they know they shouldn't do BUT Other players hardly ever do things they know they shouldn't do.
5. Some players usually act the way they know they are supposed to BUT Other players often don't act the way they are supposed to.

Intrinsic motivation. Intrinsic motivation was assessed with the challenge and curiosity/interest subscales of the Motivational Orientation in Sport scale (Weiss, Bredemeier, & Shewchuk, 1985) (see Table 3). The challenge motivation scale consists of five items that measure participants' desire to pursue optimally challenging activities. The curiosity/interest scale consists of four items to assess participants' willingness to try new skills or activities. According to Weiss et al., the subscales are highly correlated and can be combined to represent a measure of intrinsic motivation. A structured alternative response format is used, with scores ranging from low (1) to high (4) intrinsic motivation. Items were modified to be soccer-specific based on Wilko (2004). Reliability and validity have been demonstrated with adolescent sport participants (Amorose, 2001; Black & Weiss, 1992).

Table 3

Intrinsic Motivation Subscales and Items

Challenge Motivation
1. Some players like hard soccer skills because they're challenging BUT Other players prefer easy soccer skills because they are sure they can do them.
2. Some players like difficult soccer skills because they enjoy trying to become good at them BUT Other players don't like to try difficult soccer skills.
3. Some players don't like difficult soccer skills because they have to work too hard BUT Other players like difficult soccer skills because they find them more challenging.
4. Some players like to try new soccer skills that are more difficult to do BUT Other players would rather stick to soccer skills which are pretty easy.
5. Some players like skills that are pretty easy to do BUT Other players like those skills that make them work pretty hard.
Curiosity/Interest
1. Some players work on soccer skills to learn how to do them BUT Other players work on soccer skills because they're supposed to.
2. Some players practice because their coach tells them to BUT Other players practice to find out how good they can become.
3. Some players practice skills because they are interested in soccer BUT Other players practice soccer skills because their coach wants them to.
4. Some players would rather just learn only what they have to in soccer BUT Other players would rather learn as much as they can.

Perceived peer acceptance. The social acceptance subscale of the Self-Perception Profile for Adolescents (Harter, 1988) was used to assess the degree to which players feel liked by their teammates (see Table 4). The scale consists of five items in a structured alternative format, with responses ranging from low (1) to high (4) perceived peer acceptance. Validity and reliability have been shown with adolescent participants in the physical domain (Moran & Weiss, 2006; Smith, 1999).

Table 4

Perceived Peer Acceptance Items

1. Some players usually find it hard to make friends BUT For other players it's pretty easy.
2. Some players have a lot of friends BUT Other players don't have very many friends.
3. Some players are kind of hard to like BUT Other players are really easy to like.
4. Some players are popular with others their age BUT Other players are not very popular.
5. Some players feel they are socially accepted BUT Other players wished that more people their age accepted them.

Peer Leadership Behaviors

Sport Leadership Behavior Inventory (SLBI). The SLBI (Glenn & Horn, 1993) was used to obtain teammates' ratings of peer leadership behavior for each member on their team except themselves. The original scale consisted of 25 items describing peer leadership. Glenn and Horn also validated a shortened 11-item version of the scale. Because participants were asked to rate each of their teammates, the 11-item scale was used in the present study to minimize excessive questionnaire length (see Table 5). Participants rated their teammates on each of the 11 items using a 7-point scale ranging from (1) never like her to (7) always like her. For every participant, an average score was computed using teammate ratings for each of the 11 items. For example, if a team had 10 members complete the survey then participants had nine ratings for each leadership item (they did not rate themselves). The ratings for each item were summed and divided by the number of team members to calculate a mean score for that participant on 11 leadership items. Participants' mean scores were used in subsequent analyses to represent teammate ratings of peer leadership behaviors. The original scale was developed using soccer

players and has demonstrated acceptable reliability and validity (Glenn & Horn, 1993; Moran & Weiss, 2006).

Table 5

Sport Leadership Behavior Inventory (SLBI) Items (teammate ratings)

1. Determined
2. Positive
3. Motivated
4. Consistent
5. Organized
6. Responsible
7. Skilled
8. Confident
9. Honest
10. Leader
11. Respected

Peer Sport Leadership Behavior Inventory (PSLBI). The PSLBI is a self-report measure that was developed by Glenn and Horn (1993) and updated by Glenn (2003). The measure is consistent with Fiedler's (1967) theory of task- and social-oriented leadership behaviors and Bass' (1985) theory of transformational leadership behaviors (i.e., idealized influence, inspirational motivation, intellectual stimulation, individualized consideration). The scale was developed by assessing adolescent male and female soccer players on their perceived leadership abilities. Factor analysis procedures resulted in eight factors representing a variety of peer leadership dimensions.

The 56-item scale consists of eight subscales that assess motivation, character, creativity and intelligence, focus and commitment, problem solving, compassion, responsibility and maturity, and physical/technical skill dimensions of peer leadership. Athletes rated their own leadership ability on a 7-point Likert scale that ranged from

(1) never like me to (7) always like me. Glenn (2003) reported factorial validity and internal consistency for the PSLBI.

A pilot study was conducted with a high school girls' soccer team (n = 15) to evaluate the readability and length of the survey. Based on their feedback and an item analysis, modifications were made to the original 56-item scale of the PSLBI. Seven items were deleted from the original 56-item scale because they were redundant or unclear. Five items were deleted from the motivation subscale and one item was deleted from each of the problem-solving and responsibility subscales.[1] Changes were made to the wording of 11 items to enhance clarity, ease of reading, and comprehension. Four items each on the motivation and creativity and intelligence subscales were modified. Other modifications were made to one item each for the compassionate, problem solving, and responsibility and maturity subscales. Table 6 displays the original item and modified items (in italics) based on the pilot study. These changes resulted in a 49-item scale (see Table 7) representing the eight original subscales of leadership dimensions: motivation (10 items), character (5 items), creativity and intelligence (5 items), focus and commitment (6 items), problem solving (6 items), compassion (6 items), responsibility and maturity (6 items), and physical/technical skill (5 items).

[1] Motivation items deleted: I keep the quality of practices high with my great work ethic and positive attitude. I strive to be an effective leader. I'm instrumental in creating an atmosphere in which players willingly sacrifice for the good of the team. My teammates recognize that I sacrifice personal glory for the good of the team. I make sure there's effective communication on the team, both between players and between players and coaches. Problem solving item deleted: The team comes to me with issues for me to discuss with the coach. Responsibility item deleted: My teammates can count on me to always do my job.

Table 6

Peer Sport Leadership Behaviors Inventory (PSLBI) Item Modifications

Motivation subscale

1. I have the ability to inspire my teammates to play harder.
   I inspire my teammates to play harder.
2. I inspire my teammates to never give up no matter how desperate the situation might seem.
   I inspire my teammates to never give up no matter how tough the situation.
3. I am motivated to push this team to always give their best effort.
   I push this team to always give their best effort.
4. I'm a great role model for my training habits.
   I'm a great role model because of my training habits.

Problem Solving subscale

5. I'm a calming influence in pressure-packed competitive situations.
   I'm a calming influence in stressful competitive situations.

Creativity and Intelligence subscale

6. I understand game tactics and can adjust my play during the game to effectively exploit my opponent's weakness.
   I understand game tactics and can change how I play to take advantage of my opponent's weakness.
7. My teammates consider me to be an imaginative athlete when I play.
   My teammates consider me an imaginative athlete when I play.
8. I am a flexible athlete and can change my play to meet the needs of the game.
   I am able to change my style of play according to the game situation.
9. I help my teammates adjust their style of play to meet the needs of varying game situations.
   I help my teammates adjust their style of play depending on the game situation.

Compassionate subscale

10. I help my teammates deal constructively with a loss.
    I *help my teammates deal positively with a loss.*

Responsibility and Maturity subscale

11. I am a responsible person when it comes to preparing for practices and games.
    I am a responsible person when preparing for practices and games.

Table 7

Peer Sport Leadership Behavior Inventory (PSLBI) Subscales and Items (self-ratings)

Motivation subscale

1. I don't let my teammates settle for anything short of their best effort.
2. My teammates know I always put the team first.
3. I lead by example.
4. I bring out the best in my teammates.
5. I inspire my teammates to play harder.
6. I help my teammates get ready to play their best in an important competition.
7. I model a great work ethic that encourages my teammates to practice and play hard.
8. I inspire my teammates to never give up no matter how tough the situation.
9. I'm a great role model because of my training habits.
10. I push this team to always give their best effort.

Compassionate Leadership subscale

11. I try to be supportive and compassionate when my teammates are having a bad game or practice.
12. I think my teammates find me sincere in my encouragement.
13. My teammates would describe me as considerate.
14. I am thought of by my teammates as honest.
15. My teammates feel that I can be trusted.
16. I help my teammates deal positively with a loss.

Physically/Technically Skilled Leadership subscale

17. My teammates consider me a talented athlete.
18. My teammates think I am a skilled athlete.
19. I am an experienced athlete.
20. I am a physically fast athlete.
21. I am a physically strong athlete.

Responsible/Mature Leadership subscale

22. I am a responsible person when preparing for practices and games.
23. I am organized in my preparation for practices.
24. I am organized in my preparation for games.
25. I am physically and mentally prepared for practices.
26. I am physically and mentally prepared for games.
27. I follow through with my responsibilities.

Problem Solving Leadership subscale

28. My teammates look to me to help them work through problems and disagreements.
29. I'm a calming influence in stressful competitive situations.
30. My teammates look to me for leadership in crucial matches.
31. When things go wrong, my teammates look to me for answers.
32. My teammates expect me to come through at "crunch time".
33. I'm the glue that keeps the team together and playing its best.

Committed/Focused Leadership subscale

34. I sacrifice personal engagements to go to practices and games.
35. I am completely focused in games.
36. I am completely focused in practices.
37. I am not easily distracted in practices.
38. I am not easily distracted in games.
39. I am committed to help this team develop to their highest level of play.

Table 7 continued...

Character and Leadership subscale
40. I am admired by my teammates.
41. I am popular with my teammates.
42. I am respected by my teammates.
43. My teammates listen when I give opinions on game strategy.
44. My teammates consider me to be mature in my behavior.
Creative and Intelligent Leadership subscale
45. In games and practices I am creative in how I play.
46. My teammates consider me an imaginative athlete when I play.
47. I am able to change my style of play according to the game situation.
48. I help my teammates adjust their style of play depending on the game situation.
49. I understand game tactics and can change how I play to take advantage of my opponent's weakness.

Team Outcomes

Team cohesion. The Group Environment Questionnaire (GEQ; Carron, Widmeyer, & Brawley, 1985) was used to assess task and social cohesion on teams. Task cohesion consists of nine items and refers to a team member's perceptions of the group working well together to achieve group goals. Social cohesion consists of nine items and refers to a member's perception of the group as close, unified, and harmonious. Participants responded to the questions on a 9-point Likert scale ranging from (1) strongly disagree to (9) strongly agree. Psychometric properties of the GEQ have been demonstrated primarily with college-aged participants (see Carron, Brawley, & Widmeyer, 1998). Moran and Weiss (2006) modified some GEQ items based on focus group responses with high school athletes to increase reliability with adolescent populations. With modifications to four task items and two social items, acceptable reliability was achieved for task and social cohesion scales. The modified version of the GEQ used by Moran and Weiss was employed in this study (see Table 8).

Table 8

Team Cohesion Items

Task Cohesion
1. I am not happy with the amount of playing time I get.
2. *I am unhappy with my team's desire to win.*
3. This team does not give me enough opportunities to improve my personal performance.
4. I do not like the style of play on this team.
5. Our team is united in trying to reach its goals for performance.
6. *We all take equal responsibility for any loss or performance by our team.*
7. Our team members have conflicting aspirations for the team's performance.
8. *If members of our team have problems in practice that affect other team members, everyone wants to help them so we can get back together as a team.*
9. *Members of our team do not communicate freely about each other's roles during competition or practice.*
Social Cohesion
1. I do not enjoy being part of the social activities of this team.
2. I am not going to miss the members of this team when the season ends.
3. Some of my best friends are on this team.
4. *I enjoy other parties more than team functions.*
5. For me, this team is one of the most important social groups to which I belong.
6. Members of our team would rather go out on their own then get together as a team.
7. Our team members rarely party together.
8. Our team would like to spend time together in the off-season.
9. *Members of our team do not hang out or support each other outside of practices and games.*

Note. Items in italics were adopted from Moran and Weiss (2006).

Collective efficacy. The Collective Efficacy Questionnaire for Sports (CEQS; Feltz & Lirgg, 1998; Short, Sullivan, & Feltz, 2005) was used to assess team efficacy or athletes' beliefs about future team performance. The 20-item measure consists of five subscales— team ability, unity, persistence, preparation, and effort (see Table 9). The total of all five subscales represents a composite score for collective efficacy. Athletes are asked to "rate your team's confidence, in terms of the upcoming game or competition, that your team has the ability to…" followed by an item (e.g., outplay the opposing team). Items are assessed on an 11-point scale ranging from (0) not at all confident to (10) extremely confident. Reliability and validity of the CEQS have been shown with college-age (Short et al., 2005) and adolescent athletes (Glenn, 2003).

Table 9

Collective Efficacy Items

"Rate your team's confidence, in terms of the upcoming game or competition, that your team has the ability to..."

Ability subscale
1. Outplay the opposing team.
2. Show more ability than the other team.
3. Play more skillfully than the opponent.
4. Perform better than the opposing team(s).

Unity subscale
1. Resolve conflicts.
2. Be united.
3. Keep a positive attitude.
4. Maintain effective communication

Persistence subscale
1. Perform under pressure.
2. Persist when obstacles are present.
3. Stay in the game when it seems like your team isn't getting any breaks.
4. Play well without your best player.

Preparation subscale
1. Be ready.
2. Mentally prepare for this competition.
3. Physically prepare for this competition.
4. Devise a successful strategy.

Effort subscale
1. Demonstrate a strong work ethic.
2. Play to its capabilities.
3. Show enthusiasm.
4. Overcome distractions.

Procedure

Permission to conduct the study was granted by the university's institutional review board (see Appendix A). To recruit participants, I sent a letter explaining the study purpose to directors of coaching at various soccer clubs asking permission to contact team coaches. Subsequently, I sent letters to coaches of age-eligible club teams requesting permission to administer a questionnaire to their athletes before or after a scheduled training session or team meeting. About one week later, I made a follow-up phone call to coaches to schedule a time for their team to complete the survey. Once

coaches agreed to allow their teams to participate in the study, a letter describing the study and parental consent form were sent home with the athletes. Youth were asked to return the signed parent consent on the day of the study. Appendix B contains letters sent to coaches and parents.

Data were collected during the middle of the soccer season before or after a scheduled team meeting or practice. On the day of data collection, participants who provided parent consent were given a brief overview of the study and asked to sign an assent form. Participants were then given instructions and allotted sufficient time for completing the survey. The survey took athletes about 25-35 minutes to complete. Surveys were collected from 201 participants. Ten questionnaires were discarded because they were deemed unusable based on study criteria (i.e., missing data, insufficient number of team members), resulting in a final study sample of 191 soccer players. See Appendix C for a complete version of the survey.

Design and Data Analysis

A multivariate correlational design was used to address study purposes. The first purpose was to determine the relationship of personal characteristics (i.e., perceived competence, perceived peer acceptance, perceived behavioral conduct, intrinsic motivation) with peer leadership behaviors (i.e., self-rated, teammate-rated). The second purpose was to assess the relationship between peer leadership behaviors and team outcomes (i.e., team cohesion, collective efficacy).

Prior to addressing study purposes, a factor analysis was conducted with the two peer leadership measures (i.e., SLBI, PSLBI) to determine if multiple items could be reduced to a smaller number of dimensions. Factor scores for self- and teammate-rated

leadership behaviors for each athlete were created using the regression method in SPSS, and these scores were used in subsequent analyses. Second, measurement scales were examined for reliability. Third, means, standard deviations, and correlations among all study variables were calculated.

Finally, canonical correlation analyses were conducted to address the study purposes. For the first canonical correlation analysis, perceived competence, perceived peer acceptance, perceived behavioral conduct, and intrinsic motivation served as predictor variables and self- and teammate-rated peer leadership behaviors were the criterion variables. For the second canonical correlation analysis, self- and teammate-rated peer leadership behaviors served as predictor variables and task and social cohesion and collective efficacy were the criterion variables.

Results

Factor Analysis of SLBI (teammate ratings of peer leadership)

A principal axis factor analysis with varimax rotation was conducted to determine if the 11 teammate-rated peer leadership behaviors could be reduced to a smaller number of dimensions. Two factors were retained using eigenvalues ≥ 1.0 and examining the scree plot, accounting for 71.7% of the common variance among items. Items that achieved a factor loading $\geq .55$ were used to interpret the factor structure (Tabachnick & Fidell, 2001). One item, "motivated," cross-loaded on the two factors and was not used in naming factors. Loadings for and variance explained by each factor can be seen in Table 10.

The six items loading highly on the first factor included qualities such as confident, consistent, skilled, determined, leader, and respected. Because these items reflect the task-oriented aspects of leadership, the factor was labeled *Instrumental Leadership*. The four items loading highly on the second factor included honest, positive, organized, and responsible. This factor was labeled *Prosocial Leadership* due to the predominance of social-oriented qualities. Factor scores for Instrumental and Prosocial Leadership for each athlete were computed using the regression method in SPSS and used in subsequent analyses.

Table 10

Factor Loadings for Teammate-rated Peer Leadership Behaviors

Factor	1	2
Instrumental Leadership		
Confident	**.87**	.11
Leader	**.85**	.24
Consistent	**.75**	.45
Skilled	**.74**	.27
Determined	**.73**	.51
Motivated	**.68**	**.59**
Respected	**.66**	.53
Prosocial Leadership		
Honest	.19	**.86**
Responsible	.30	**.82**
Positive	.19	**.70**
Organized	.41	**.64**
Eigenvalue	4.40	3.53
Percentage of Variance	39.6	32.1

Factor Analysis of PSLBI (self-ratings of peer leadership)

A principal axis factor analysis with varimax rotation was conducted for the self-rated measure of peer leadership behaviors to determine if the eight subscales could be reduced to a smaller number of categories. Subscales rather than individual items were used in the factor analysis for two reasons: (a) moderately high correlations among subscales (r = .40 to .84), and (b) acceptable subject-to-variable ratio (191 participants/ 8 subscales) that should ensure a more stable factor structure.

One factor was retained using eigenvalues ≥ 1.0 and examining the scree plot, accounting for 63.8% of the common variance among the subscales. Subscales that achieved a factor loading ≥ .55 were used to interpret the factor structure (Tabachnick & Fidell, 2001). Loadings for and variance explained by the factor can be seen in Table 11.

The subscales represent a diverse set of behaviors (i.e., motivation, responsible, character, creativity, problem solving, compassion, commitment, physical skill) that are highly correlated. Because this factor contained both task- and social-oriented behaviors it was labeled *Instrumental/Prosocial Leadership.* Based on the regression method provided in SPSS, factor scores were created for each athlete and used in subsequent canonical correlation analyses.

Table 11

Factor Loadings for Self-rated Peer Leadership Behaviors

Factor	1
Instrumental/Prosocial Leadership	
Motivation	.96
Compassionate	.85
Physically/Technically Skilled	.83
Responsible/Mature	.81
Problem Solving	.70
Committed/Focused	.68
Character	.63
Creativity/Intelligence	.62
Eigenvalue	5.10
Percentage of Variance	63.8

Scale Reliabilities

All scales and subscales were evaluated for internal consistency using alpha coefficients. Item analysis (i.e., inter-item correlations, squared multiple correlations, item-total correlations) revealed that three scales would achieve acceptable reliability if items were removed from the scale. Thus, three items were deleted from the social cohesion subscale. Two items each were deleted from the task cohesion subscale and perceived behavioral conduct scale.[2] Following these deletions, all scales and subscales achieved acceptable reliability with $\alpha = .73$ to .95 (see Table 12). Acceptable reliabilities were also achieved for instrumental ($\alpha = .93$) and prosocial ($\alpha = .87$) teammate-rated leadership factors and instrumental/prosocial self-rated peer leadership ($\alpha = .92$).

[2] Social cohesion items deleted: I do not enjoy being a part of the social activities of this team. I am not going to miss the members of this team when the season ends. Members of our team would rather go out on their own than get together as a team. Task cohesion items deleted: I am not happy with the amount of playing time I get. We all take equal responsibility for any loss of performance by our team. Perceived behavioral conduct items deleted: Some players usually do the right thing but other players don't do what they know is right. Some players feel really good about the way they act but other players don't feel that good about the way they often act.

Table 12

Alpha Coefficients for All Scales and Subscales

Scale	Alpha Coefficient	Final Number of Items
Personal Characteristics		
Perceived Soccer Competence	.76	5
Perceived Behavioral Conduct	.73	3
Intrinsic Motivation		
• Challenge motivation	.85	5
• Curiosity and interest	.76	4
• Composite score	.87	9
Perceived Peer Acceptance	.83	5
Peer Leadership Behaviors		
Instrumental (teammate-rated factor 1)	.93	6*
Prosocial Leadership (teammate-rated factor 2)	.87	4
Instrumental/Prosocial Combined (self-rated factor)	.92	8^
Team Outcomes		
Task Cohesion	.80	7
Social Cohesion	.76	6
Collective Efficacy		
• Ability	.89	5
• Unity	.81	5
• Persistence	.79	5
• Preparation	.84	5
• Effort	.83	5
• Composite score	.95	20

**The item "motivated" was not included in reliability analysis because it loaded on both factors.*
^Eight subscales, not items, based on factor analysis procedures

Descriptive Statistics

Table 13 depicts means, standard deviations, and correlations between personal characteristics and peer leadership behaviors. Athletes reported relatively high levels of perceived behavioral conduct, intrinsic motivation, and perceived peer acceptance, while perceived soccer competence was above average. Thus, athletes indicated that they try to avoid behaviors that get them in trouble, pursue challenging activities, are liked by their teammates, and are moderately confident about their soccer ability. Unstandardized

means for teammate-rated instrumental and prosocial leadership and self-rated instrumental/prosocial leadership were relatively high (M = 5.37 to 5.55 on a 7-point scale). Thus, athletes perceived their teammates and themselves as frequently demonstrating leadership behaviors.

Correlations among personal characteristics (i.e., perceived soccer competence, intrinsic motivation, behavioral conduct, peer acceptance) ranged from r = -.18 to .31. Correlations among self- and teammate-rated leadership behaviors ranged from r = .21 to .62. Personal characteristics and peer leadership factors were also positively related.

Means, standard deviations, and correlations between peer leadership behaviors and team outcomes are presented in Table 14. Athletes reported moderately high task and social cohesion and collective efficacy. Athletes see their teams as working well together and being united and feel confident about future team performance.

Correlations for team outcomes (i.e., task and social cohesion, collective efficacy) were all positive and ranged from r = .41 to .61. Teammate-rated peer leadership factors were weakly related to cohesion and collective efficacy, while self-rated peer leadership and team outcomes were low to moderately related.

Table 13

Correlations Among Personal Characteristics and Peer Leadership Behaviors (N = 191)

	1	2	3	4	5	6	7
1. Perceived Soccer Competence	.76						
2. Intrinsic Motivation	.31	.87					
3. Perceived Behavioral Conduct	.02	.16	.73				
4. Perceived Peer Acceptance	.25	.00	-.18	.83			
5. Instrumental Leadership (teammate-rated)	.27	.15	.02	.19	.93		
6. Prosocial Leadership (teammate-rated)	.05	.12	.28	.04	.62	.87	
7. Instrumental/Prosocial Combined Leadership (self-rated)	.48	.40	.09	.34	.40	.21	.92
M	2.84	3.14	3.23	3.40	5.37	5.55	5.40
SD	.45	.51	.63	.55	.76	.60	.70
Scale Range	1-4	1-4	1-4	1-4	1-7	1-7	1-7

Note. Alpha coefficients are presented on the diagonal. $r > |.12|$ denote significant relationships ($p < .05$).

Table 14

Correlations Among Peer Leadership Behaviors and Team Outcomes (N = 191)

	1	2	3	4	5	6
1. Instrumental Leadership (teammate-rated)	.93					
2. Prosocial Leadership (teammate-rated)	.62	.87				
3. Instrumental/Prosocial Combined Leadership (self-rated)	.40	.21	.92			
4. Task Cohesion	-.03	.08	.24	.80		
5. Social Cohesion	.13	.14	.29	.49	.76	
6. Collective Efficacy	-.03	-.03	.49	.61	.41	.95
M	5.37	5.55	5.40	6.51	6.16	7.35
SD	.76	.60	.70	1.40	1.59	1.37
Scale Range	1-7	1-7	1-7	1-9	1-9	0-10

Note. Alpha coefficients are presented on the diagonal. $r > |.21|$ denote significant relationships ($p < .01$).

Purpose 1: Relationship Between Personal Characteristics and Peer Leadership Behaviors

A canonical correlation analysis was conducted to determine the relationship between personal characteristics and peer leadership behaviors. Perceived soccer competence, intrinsic motivation, perceived behavioral conduct, and perceived peer acceptance served as predictor variables and teammate-rated (i.e., instrumental, prosocial) and self-rated (i.e., instrumental/prosocial) leadership behaviors represented the criterion variables. A significant multivariate relationship emerged, Wilks' $\lambda = .53$, $F(12, 487) = 11.03$, $p < .0001$, indicating that personal characteristics were related to the set of peer leadership indicators. Two canonical functions emerged, $Rc_1 = .62$ (37.8% overlapping variance) and $Rc_2 = .38$ (14.6% overlapping variance). The first function suggested a moderately strong relationship between the sets of variables and the second function a moderate relationship.

Canonical loadings describe the relative contribution of each variable to the multivariate relationship. Loadings can be seen in Table 15. Canonical loadings greater than or equal to .30 denote variables that meaningfully contribute to the multivariate relationship (Tabachnick & Fidell, 2001). For Function 1 predictor variables, perceived soccer competence contributed most to the overall relationship, followed by intrinsic motivation and perceived peer acceptance. Among the criterion variables, self-rated instrumental/prosocial and teammate-rated instrumental leadership significantly contributed to the relationship. The predictor and criterion variables demonstrated a positive relationship with one another. These results mean that female adolescent soccer players who viewed themselves as skilled, curious and interested in challenging activities, and liked by team members were rated by their teammates as displaying more

frequent instrumental leadership behaviors. Likewise, these athletes also saw themselves as engaging in more frequent leadership behaviors (i.e., instrumental/prosocial).

Table 15

Canonical Loadings for the Relationship Between Personal Characteristics and Peer Leadership Behaviors

Variable	Loading	
	F1	F2
Predictor Variables		
Perceived Soccer Competence	.81	-.23
Intrinsic Motivation	.63	.25
Perceived Behavioral Conduct	.08	.94
Perceived Peer Acceptance	.57	-.12
Criterion Variables		
Instrumental Leadership (teammate rating)	.49	-.07
Prosocial Leadership (teammate rating)	.20	.73
Instrumental/Prosocial Leadership (self-rating)	.99	.11

For Function 2, perceived behavioral conduct was the only significant predictor variable contributing to the multivariate relationship and teammate-rated prosocial leadership behavior was the only significant criterion variable. This means that athletes who report that they stay out of trouble and feel good about the way they act are associated with leadership behaviors such as honesty and responsibility.

The redundancy index showed that the two functions accounted for 18.5% of the variance in peer leadership behaviors as explained by variations in personal characteristics (i.e., perceived soccer competence, intrinsic motivation, behavioral conduct, peer acceptance). Based on recommendations from Tabachnick and Fidell (2001), this value meets the 10% criterion deemed as significant and meaningful.

Purpose 2: Relationship Between Peer Leadership Behaviors and Team Outcomes

A canonical correlation analysis was conducted to determine the relationship between peer leadership behaviors and team outcomes. Teammate-rated instrumental and prosocial and self-rated instrumental/prosocial leadership behaviors served as predictor variables and task cohesion, social cohesion, and collective efficacy represented the criterion variables. A significant multivariate relationship emerged, Wilks' $\lambda = .65$, $F(9, 450) = 9.53$, $p < .0001$, indicating that peer leadership behaviors were related to the set of team outcome indicators. Two canonical functions emerged, $Rc_1 = .56$ (31.0% overlapping variance) and $Rc_2 = .18$ (3.1% overlapping variance). The first function suggested a moderately strong relationship between the sets of variables and the second function a low-moderate relationship.

Canonical loadings greater than or equal to .30 denote variables that meaningfully contribute to the multivariate relationship (Tabachnick & Fidell, 2001). For Function 1, self-rated instrumental/prosocial leadership behaviors were the only predictor variable significantly contributing to the relationship (see Table 16). Among the criterion variables, collective efficacy contributed most to the overall relationship, followed by task cohesion and social cohesion. The predictor and criterion variables demonstrated a positive relationship with one another. Thus, athletes who rated themselves higher in instrumental/prosocial leadership behaviors reported greater task and social cohesiveness within their teams and a higher degree of confidence in their team's ability, unity, effort, preparation, and persistence.

Table 16

Canonical Loadings for the Relationship Between Peer Leadership Behaviors and Team Outcomes

Variable	Loading	
	F1	F2
Predictor Variables		
Instrumental Leadership (teammate rating)	-.01	.87
Prosocial Leadership (teammate rating)	-.04	.92
Instrumental/Prosocial Leadership (self-rating)	.91	.36
Criterion Variables		
Task Cohesion	.50	.24
Social Cohesion	.47	.88
Collective Efficacy	.99	-.07

For Function 2, teammate-rated instrumental and prosocial leadership behaviors contributed to the multivariate relationship. Social cohesion was the only significant criterion variable. The predictor and criterion variables positively related to one another. Thus, athletes who were rated higher by teammates on instrumental and prosocial leadership behaviors reported greater social cohesion on their teams.

The redundancy index showed that 15.8% of the variance in team outcomes was explained by the set of peer leadership behaviors (i.e., teammate and self-rated). This value meets the 10% criterion deemed as significant and meaningful (Tabachnick & Fidell, 2001).

Discussion

The purposes of the present study were to investigate (a) the relationship between personal characteristics (i.e., perceived competence, intrinsic motivation, behavioral conduct, peer acceptance) and peer leadership behaviors, and (b) the relationship between

peer leadership behaviors and team outcomes (i.e., cohesion and collective efficacy). These purposes replicate and extend previous research on peer leadership in sport (Glenn, 2003; Glenn & Horn, 1993; Moran, 2003; Moran & Weiss, 2006). Results for the first purpose were consistent with previous research, in which higher perceived soccer competence and peer acceptance were related to peer leadership behaviors (e.g., Glenn, 2003; Glenn & Horn, 1993; Moran & Weiss, 2006). In addition, results extend these studies by showing that higher levels of intrinsic motivation and perceived behavioral conduct were positively associated with peer leadership behaviors. Together, these findings mean that team members associate leadership behaviors with peers who are confident in their soccer abilities, liked by others, prefer challenging tasks to easy ones, and feel good about the way they act. Thus, female adolescent peer leaders are those who possess a variety of psychosocial attributes such as positive physical self-perceptions, prosocial behaviors, and social acceptance.

Results for the relationship between peer leadership behaviors and team outcomes replicated previous findings in two ways. First, athletes who were rated higher by teammates on instrumental and prosocial leadership behaviors reported greater social cohesion. This means that teammates felt greater team harmony and togetherness when they rated peer leaders higher in behaviors such as being organized and respected. Second, results support findings by Glenn (2003) and Moran (2003) in that athletes who rated themselves higher in leadership behavior reported greater task and social cohesion and collective efficacy. Thus, athletes who thought they were effective leaders also saw their teams as working well together, feeling harmonious, and being confident about future team performance. Collectively, results demonstrated that peer leadership

behaviors are an important aspect of team functioning that contribute to beliefs of how well team members get along, their ability to accomplish goals, and efficacy to be successful.

Factor analyses classified peer leadership as teammate-rated instrumental and prosocial and self-rated instrumental/prosocial behaviors, which are consistent with previous research. For example, present study findings support the role integration nature of leadership behaviors—that peer leadership is associated with athletes who use both instrumental and expressive behaviors (Glenn & Horn, 1993; Moran & Weiss, 2006; Rees, 1983; Rees & Segal, 1984; Todd & Kent, 2004). This means that athlete leaders in this study were seen as using behaviors such as organization and instruction that were related to goal attainment, and using interpersonal skills such as cooperation and conflict resolution that were associated with social cohesion and collective efficacy. Thus, in support of role integration, peer leaders in the present study encompassed a variety of behaviors that were crucial to positive group outcomes.

Overall, results support tenets of transformational leadership theory (Bass, 1985) relative to personal characteristics, peer leader behaviors, and team outcomes. First, peer leaders in this study were associated with personal characteristics such as being confident in their soccer abilities, staying out of trouble, developing positive social relationships, preferring challenging tasks, and taking initiative to learn new skills. These attributes align with personal characteristics of transformational leaders such as demonstrating confidence, character, and care and concern for others; being proactive; and willing to take risks (Bass, 1985, 2008; Bass & Riggio, 2006). Second, peer leadership behaviors in the form of instrumental and prosocial categories are similar to idealized influence,

inspirational motivation, intellectual stimulation, and individualized consideration behaviors of transformational leadership theory. Finally, peer leadership behaviors were positively related to task and social cohesion and collective efficacy. These relationships are in line with transformational leadership theory, which states that leadership behaviors are associated with team outcomes such as unity, trust, confidence, and goal attainment. In sum, relationships found in the present study contribute to the knowledge base by demonstrating support for using transformational leadership theory to investigate the nature of athlete leadership in sport.

Although study findings highlighted important relationships among personal characteristics, peer leader behaviors, and team outcomes, some questions remain that need to be pursued in future studies. When asking athletes about leadership behaviors, the results demonstrate that *who* does the rating makes a difference. For example, self-ratings of peer leadership behaviors were positively related to all team outcomes. However, teammate ratings of peer leadership behaviors were only associated with social cohesion. Self-ratings of leadership may represent social desirability because individuals rated themselves high on all categories. Because leadership is a process of influence (Northouse, 2004) and leadership effectiveness is more meaningfully understood by examining followers' perceptions of leadership behaviors (Bass, 2008), teammate perceptions of leadership behaviors may reveal a more interesting story. Future research might adopt the same approach predominantly used for assessing coaching behaviors—athletes' *perceptions* of teammate leadership behaviors as contributors to correlates and consequences of leadership effectiveness. After all, team members' perceptions of

effective leadership are most likely to be associated with their feelings of cohesion and beliefs about the team's ability to perform.

In addition to using teammates' perceptions of peer leadership to drive future research efforts, studies need to address the simultaneous role of peer leaders and coaches. A substantial amount of research has demonstrated the importance of coach leadership on athlete outcomes (see Horn, 2002, 2008), but coaches and peer leaders may provide different forms of team leadership and differentially affect individual and team outcomes. Recall that teammate-rated leadership was only associated with social cohesion. For teams in this study, perhaps task cohesion and collective efficacy may have been more strongly associated with coach leadership. Given the unexplained variance in team outcomes, the combined influence of coach and peer leadership may contribute more fully to understanding variations in cohesion and collective efficacy. Because coaches make decisions about playing time, call plays, and deal with player concerns or problems, research is needed to understand the unique and joint effects of coach and athlete leadership on team outcomes. Recent studies on coach and athlete leadership provide insight into this issue (Glenn, 2003; Kozub & Pease, 2001; Loughead & Hardy, 2005; Wildman, 2006). Team members perceived coach and athlete leaders to engage in varying levels of decision-making, social support, positive feedback, and training and instruction. For example, Glenn (2003) found that more frequent coach and peer leader democratic behaviors, social support, positive feedback, and training and instruction were related to higher levels of team cohesion and collective efficacy.

Measurement issues have made the study of coach and peer leadership challenging. Some studies used the Leadership Scale for Sport (LSS; Chelladurai &

Saleh, 1980) to assess coaching behaviors and a modified version of the same scale (Peer Leadership Scale for Sport; PLSS) to assess peer leadership behaviors (e.g., Glenn, 2003; Loughead & Hardy, 2005). Because the LSS was developed and validated for assessing coaching behaviors, it is not conceptually appropriate to measure peer leadership. Thus, future research might seek to use appropriate measures that can reliably evaluate coach *and* peer leadership behaviors within teams. Such measures would allow team members to rate how frequently coaches and athletes exhibit the same types of leadership behaviors, which may shed light on how these leadership forces interact within teams.

Results of the current study demonstrated that peer leadership behaviors are related to team outcomes, but no studies have examined the relationship between peer leadership and individual outcomes. In other lines of research based on transformational leadership theory, leadership behaviors have been related to individual outcomes such as confidence, commitment, effort, and satisfaction (see Bass, 2008; Bass & Riggio 2006). Therefore, it is possible the peer leadership behaviors in sport may influence similar athlete outcomes. In contrast, numerous studies have examined the effects of coach leadership on individual and team outcomes (e.g., Black & Weiss, 1992; Hollembeak & Amorose, 2005; Price & Weiss, 2000; Westre & Weiss, 1991), demonstrating that coaches play an important role in affecting athletes' self-perceptions, affect, and motivation. Thus, to extend our understanding of leadership in sport, it is logical to assess how peer *and* coach leadership behaviors relate to individual and team outcomes.

Transformational leadership theory provided a viable framework for investigating relationships among relevant variables in the present study. Results from Study 1 demonstrated that the construct of a peer leader is multifaceted and that peer leadership is

related to perceptions of team unity and confidence. However, some issues still need to be addressed. In particular, the study of leadership in sport would benefit from addressing the unique and joint contributions of coach and peer leadership to individual and team outcomes. Transformational leadership theory would be appropriate to examine these relationships because transformational leaders are thought to influence individual and group outcomes via a multitude of decision making, socially supportive, inspirational, motivational, and problem solving behaviors. Therefore, couched within the tenets of transformational leadership theory, Study 2 emphasized the separate and concurrent influence of peer *and* coach leadership on athletes' individual outcomes (enjoyment, perceived soccer competence, intrinsic motivation, and sport commitment) and team outcomes (team cohesion, collective efficacy).

CHAPTER III

STUDY 2

The focus of Study 1 was to better understand relationships between peer leadership characteristics and behaviors and between peer leadership behaviors and team outcomes. In Study 2, the unique and collective influence of peer and coach leadership was examined as they relate to team and individual outcomes. Transformational leadership theory was again adopted as a means of understanding coach and athlete leadership.

Research on coaches as leaders provides substantial support for the relationship between coaching behaviors and athletes' psychosocial responses at both a team and individual level (see Amorose, 2007; Chelladurai, 2007; Horn, 2002, 2008). Some of these outcomes include perceived competence, enjoyment, motivational orientation, team cohesion, and collective efficacy. However, to date only one study has examined the combined influence of coach and athlete leadership on team outcomes (Glenn, 2003). Results demonstrated that athletes who perceived coaches and peer leaders as engaging in more frequent democratic behavior, training and instruction, social support, and positive feedback reported higher levels of team cohesion and collective efficacy. Although a body of research supports the influence of coaching behaviors on athlete outcomes, relationships among coach leader behaviors, peer leader behaviors, and athlete and team outcomes have received little attention.

Thus, the purposes of Study 2 were to examine the unique and joint influence of peer and coach leadership behaviors on individual and team outcomes using transformational theory as a framework. Specifically, Study 2 extended Study 1 and previous research in four ways. First, Study 2 extended previous research by assessing the validity of the Multifactor Leadership Questionnaire (MLQ-5X) as a measure of transformational leadership in sport. Second, Study 2 extended Study 1 and previous research by examining peer leadership behaviors in relation to athletes' individual (enjoyment, perceived competence, intrinsic motivation, sport commitment) and team outcomes (cohesion, collective efficacy). Third, Study 2 extended previous research by examining the relationship between coach leadership and athletes' individual (enjoyment, perceived competence, intrinsic motivation, sport commitment) and team outcomes (cohesion, collective efficacy). Fourth, Study 2 extended Study 1 and previous research by examining the unique and combined influence of peer and coach leadership on athletes' individual and team outcomes (see Figures 7 and 8).

Based on principles of transformational leadership theory and previous research on peer and coach leadership behaviors (e.g., Bass, 1985; Glenn, 2003; Horn, 2002, 2008; Moran & Weiss, 2006), the following hypotheses were forwarded. For the first study purpose, it was hypothesized that the MLQ-5X would result in an 8-factor solution. Four factors would represent transformational leadership (i.e., idealized influence, inspirational motivation, intellectual stimulation, individualized consideration), three factors would represent transactional leadership (i.e., contingent reward, management-by-exception active, management-by-exception passive), and one factor would represent laissez-faire leadership (Bass & Avolio, 2004). Transformational, transactional, and laissez-faire

leadership behaviors would then be used to examine the remaining study purposes regarding relationships among peer and coach leadership and individual and team outcomes.

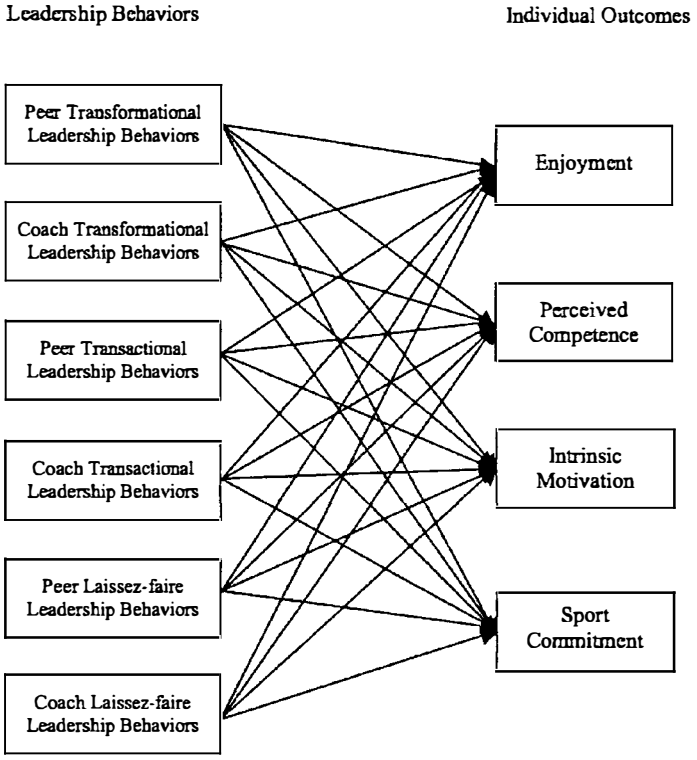

Figure 7. Relationships Among Peer and Coach Leadership and Individual Outcomes

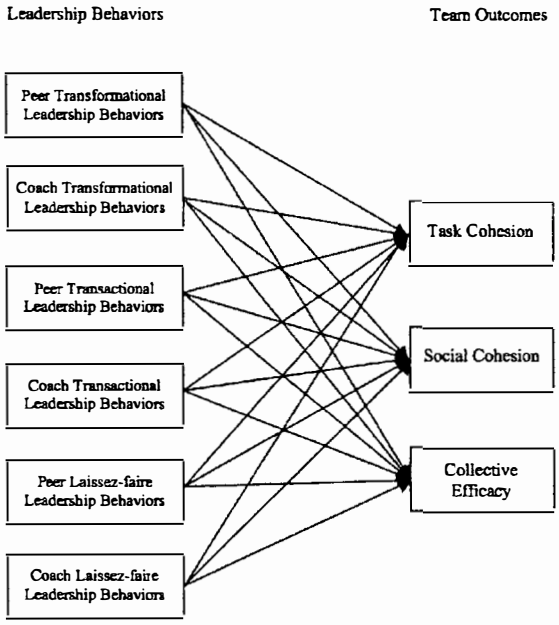

Figure 8. Relationships Among Peer and Coach Leadership and Team Outcomes

For the second purpose, it was hypothesized that peer transformational leadership behaviors would be strongly and positively related to athletes' psychological responses and team outcomes. Because transformational leadership behaviors are associated with followers' empowerment, self-confidence, effort, commitment, as well as team unity, cooperation, and confidence (Bass & Riggio, 2006; Zacharatos et al., 2000), it was expected that higher levels of these behaviors (i.e., 4I's) are associated with higher levels of perceived competence, intrinsic motivation, commitment, enjoyment, cohesion, and collective efficacy. Also, based on theory and previous research (Zacharatos et al., 2000), peer transactional leadership behaviors would be moderately and positively related to individual and team outcomes. These relationships will be weaker than that of transformational leadership behaviors because transactional behaviors represent contingent rewards and management concerns, not behaviors related to motivation,

confidence, and cooperation. Peer laissez-faire leadership style should be unrelated to individual and team outcomes because athletes were asked to identify an ideal peer leader on their team, so this leader should not be viewed as lacking leadership ability.

For the third study purpose, coach transformational leadership behaviors were hypothesized to be strongly and positively related to athletes' psychological responses and team outcomes. Recall that transformational leadership behaviors are related to empowering others, enhancing self-confidence, fostering effort and commitment, and promoting collaboration, harmony, and confidence within groups (Bass & Riggio, 2006). Thus, it is probable that higher levels of coach 4I's are associated with higher levels of perceived competence, intrinsic motivation, commitment, enjoyment, cohesion, and collective efficacy. This hypothesis is also based on theory and previous research on coach transformational leadership behaviors (Charbonneau et al., 2001; Rowold, 2006). Coach transactional leadership behaviors should be moderately and positively related to athletes' individual and team outcomes. These relationships will be weaker than that of transformational leadership behaviors because transactional behaviors represent contingent rewards and management concerns. Lastly, coach laissez-faire leadership behaviors were expected to be negatively related to individual and team outcomes because the absence of effective coach leadership should be related to lower enjoyment, perceived competence, intrinsic motivation, commitment, cohesion, and collective efficacy.

For the fourth study purpose, higher levels of coach and peer transformational leadership behaviors were expected to be associated with higher levels of athletes' individual and team outcomes, while coach and peer transactional leadership behaviors

would be moderately and positively related. Because coaches represent team management roles to a greater extent than peer leaders, it was hypothesized that coach transactional leadership behaviors would be a stronger predictor than peer transactional leadership behaviors. Lastly, coach laissez-faire leadership behaviors should be negatively related to individual and team outcomes, while peer laissez-faire leadership behaviors should be unrelated to individual and team outcomes.

Method

Participants

Female adolescent soccer players ($N = 412$) comprised the sample, ranging in age from 14 to 18 years ($M = 15.9$, $SD = .98$) and who were members of 41 U-15, U-16, U-17, and U-18 competitive travel teams. Girls had played organized soccer for about 9 years ($M = 9.4$, $SD = 2.3$), played on their current club team for 3.5 years ($SD = 2.2$), and played for their current coach for 3 years ($M = 2.6$, $SD = 2.0$). The majority were Caucasian (84.7%), while others described themselves as Hispanic (6.3%), Multi-ethnic (4.1%), Asian (3.2%), Other (1.0%), and African-American (0.7%). Study eligibility included athletes who had played on their current team for at least one season or six months so that they had sufficient experience with their coach and teammates to rate leadership behaviors and individual and team characteristics. A minimum of three athletes per team was required to be included in the final sample. An average of 10 players per team participated in the study ($M = 10.05$, $SD = 3.57$).

Female adolescent team sport athletes were chosen for several reasons. First, soccer teams represent an interdependent context consisting of coaches and athletes who

work together to achieve a common goal. This concept aligns with Northouse's (2004) definition of leadership involving social influence (e.g., cooperation, decision making behaviors) within a group to achieve a common goal. Second, adolescent female sport participants value relationships with coaches and peers (e.g., Amorose & Anderson-Butcher, 2007; Horn, 2008; Weiss, Smith, & Theeboom, 1996). These relationships and interactions form the basis for understanding how coach and peer leadership influence team members' perceptions of their sport experiences. Finally, studying female adolescent soccer players allowed for a comparison to findings for Study 1 and other related research (Glenn, 2003; Glenn & Horn, 1993; Moran, 2003; Moran & Weiss, 2006).

Coaches ($N = 34$; 26 males, 8 females) ranged in age from 20 to 58 years ($M = 38.9$, $SD = 9.8$), had 2 to 35 years of coaching experience ($M = 13.8$, $SD = 8.3$), and had been coaching their current team for about 4 years ($M = 3.8$, $SD = 2.4$). Although 41 teams participated in the study, some coaches were the head coach of more than one team—five coaches were associated with two teams each and one was the head coach of three different teams. Almost all of the coaches (92%) had participated in formal coach training through two of the major governing bodies for soccer in the United States: United States Soccer Federation (USSF) or the National Coaches Association of America. Many coaches (55.8%) had received licensing higher than a USSF 'C' License, meaning they were trained and certified to teach soccer to youth through collegiate athletes. The focus of higher level licensing is advanced soccer concepts, team management, and player development. The majority of coaches described themselves as

Caucasian (76.5%), followed by Hispanic (11.8%), Asian (5.9%), African-American (2.9%), and Other (2.9%).

Measures

Participants completed a series of measures to assess coach leadership behaviors, peer leadership behaviors, and individual and team outcomes. The following sections describe the measures in each of these categories, including specific items, response format, and validity information for adolescents.

Coach and Peer Leadership Behaviors

Transformational Leadership. The Multifactor Leadership Questionnaire (Form 5X-Short; MLQ-5X) (Bass & Avolio, 2004) was used to assess coach and peer leadership behaviors. Confirmatory factor analysis procedures with normative data sets representing a wide range of organizational settings and levels of leadership (i.e., executives, team leaders) were used to validate the measure. According to Bass and Avolio, using the MLQ-5X is advantageous because it covers a broad range of leadership behaviors and can be used to assess the leadership style of individuals at varying levels within an organization or team (e.g., coach and peer leaders).

The scale consists of 45 items representing transformational, transactional, and laissez-faire behaviors. In addition, the scale includes group outcomes (e.g., extra effort, effectiveness, and satisfaction). For the purposes of this study, only the 36 items representing leadership behaviors were used because individual and team outcomes were assessed using other measures. Excluding the outcome items is acceptable and will not

affect measurement of leadership behaviors (Bass & Avolio, 2004). Table 17 displays the 36 items by scale of the MLQ-5X used in this study.

Table 17

MLQ-5X Subscales and Items

Transformational Leadership

Idealized Influence subscale

1. Instills pride in me for being associated with him/her.
2. Goes beyond self-interest for the good of the group.
3. Acts in ways that builds my respect.
4. Displays a sense of power and confidence.
5. Talks about his/her most important values and beliefs.
6. Specifies the importance of having a strong sense of purpose.
7. Considers the moral and ethical consequences of decisions.
8. Emphasizes the importance of having a collective sense of mission.

Inspirational Motivation subscale

9. Talks optimistically about the future.
10. Talks enthusiastically about what needs to be accomplished.
11. Articulates a compelling vision of the future.
12. Expresses confidence that goals will be achieved.

Intellectual Stimulation subscale

13. Re-examines critical assumptions to question whether they are appropriate.
14. Seeks differing perspectives when solving problems.
15. Gets me to look at problems from many different angles.
16. Suggests new ways of looking at how to complete assignments.

Individual Consideration subscale

17. Spends time teaching and coaching.
18. Treats me as an individual rather than just as a member of the group.
19. Considers me as having different needs, abilities, and aspirations from others.
20. Helps me to develop my strengths.

Transactional Leadership

Contingent Reward subscale

21. Provides me with assistance in exchange for my efforts.
22. Discusses in specific terms who is responsible for achieving performance targets.
23. Makes clear what one can expect to receive when performance goals are achieved.
24. Expresses satisfaction when I meet expectations.

Management-by-Exception Active subscale

25. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.
26. Concentrates his/her full attention on dealing with mistakes, complaints, and failures.
27. Keeps track of all mistakes.
28. Directs attention toward failures to meet standards.

Management-by-Exception Passive subscale

29. Fails to intervene until problems become serious.
30. Waits for things to go wrong before taking action.
31. Shows that he/she is a firm believer in "If it ain't broke, don't fix it."
32. Demonstrates that problems must become chronic before taking action.

Table 17 continued...

Laissez-faire Leadership
Laissez-faire Leadership subscale
33. Avoids getting involved when important issues arise.
34. Is absent when needed.
35. Avoids making decisions.
36. Delays responding to urgent questions.

Eight subscales were used to measure three leadership styles. Transformational leadership style assesses behaviors such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration subscales. Transactional leadership style measures contingent reward, management-by-exception active, and management-by-exception passive behaviors. Laissez-faire leadership style assesses behaviors such as avoiding decisions or being absent when needed. The MLQ-5X assesses the frequency with which leaders display each behavior using a 5-point scale ranging from 0 (not at all) to 4 (frequently, if not always). Each question begins with the stem, "The person I am rating..." followed by the item (e.g., talks optimistically about the future). Reliability and validity for the MLQ-5X have been previously established with adult and adolescent populations (see Bass & Avolio, 2004; Bass & Riggio, 2006), including coaches (Charbonneau et al., 2001; Rowold, 2006) and adolescent sport participants (Zacharatos et al., 2000).

Athletes completed the MLQ-5X twice—once to assess leadership behaviors of their coach and a second time to assess a teammate who they identified as a team leader. For coach leadership, athletes wrote their head coach's name at the top of each page of the MLQ-5X before answering questions to focus their attention on one coach and to ensure all team members were rating the same coach. For peer leadership, athletes were asked to think of a person on their team who they consider to be a leader. They were told

that this person could be anyone on their team (except themselves) and not necessarily a team captain. Athletes wrote that person's name at the top of each page of the MLQ-5X to remind them to always think of the same peer leader and then completed the questions about their identified peer leader's behaviors. Athletes were also asked to identify the leadership status of that player (i.e., team captain, not a team captain, sometimes a team captain, we don't have team captains) and the length of time they had played with her. Athletes reported having played with their selected peer leader for about 3 years ($M = 3.3$, $SD = 2.2$). The majority of participants (53.9%) chose a team captain (i.e., team captain or sometimes a team captain), while 46.1% chose someone other than a team captain (i.e., not a team captain or we don't have captains). Thus, girls perceived teammates to be leaders regardless of formal or appointed leadership status.

Individual Outcomes

Soccer Enjoyment. Three items assessed athletes' overall enjoyment with playing soccer on their club team (see Table 18). Responses were given on a 5-point scale ranging from 1 (not at all) to 5 (very much so). Reliability and validity have been previously established with adolescent sport participants (e.g., Price & Weiss, 2000; Raedeke, 1997).

Table 18

Soccer Enjoyment Items

1. How fun is soccer participation on this team?
2. How much do you like playing soccer on this team?
3. How much do you enjoy being on this soccer team?

Perceived Soccer Competence. The athletic subscale of the Self-Perception Profile for Adolescents (Harter, 1988) was used to assess athletes' perceived soccer competence (see Table 19). Items were modified to be specific to soccer. The subscale consists of five items in a structured alternative response format. Participants first choose between two statements that best describe their feelings, and then indicate whether the statement is *really true* or *sort of true* for them. Responses range from (1) low to (4) high perceived competence. Reliability and validity have been previously established with adolescent sport participants (e.g., Black & Weiss, 1992; Moran & Weiss, 2006).

Table 19

Perceived Soccer Competence Items

1. Some players do very well at soccer BUT Other players don't feel that they are very good when it comes to soccer.
2. Some players think they could do well at just about any new soccer skill BUT Other players are afraid they might not do well at a new soccer skill.
3. Some players feel that they are better than others their age at soccer BUT Other players don't feel they can play as well.
4. Some players don't do well at new soccer skills BUT Other players are good at new soccer skills right away.
5. Some players do not feel that they are very good at soccer BUT Other players feel they *are* very good at soccer.

Intrinsic Motivation. Intrinsic motivation was assessed with the Motivational Orientation in Sport scale (Weiss et al., 1985) (see Table 20). Three subscales were chosen to represent athletes' motivational orientation or the underlying reasons for engaging in soccer participation. The challenge motivation scale consists of five items to assess athletes' preferences for optimally challenging rather than simple tasks. The independent mastery scale includes five items assessing athletes' preference for learning

and solving problems on their own versus help from the coach. The curiosity/interest scale consists of four items that assess athletes' desire to learn rather than avoid new skills or activities. All three subscales can be combined to represent a measure of intrinsic motivation. A structured alternative response format is used, with scores ranging from (1) low to (4) high intrinsic motivation. Items were modified to be specific to soccer (Wilko, 2004). Reliability and validity have been demonstrated with adolescent sport participants (e.g., Amorose, 2001; Black & Weiss, 1992).

Table 20

Intrinsic Motivation Subscales and Items

Challenge Motivation

1. Some players like hard soccer skills because they're challenging BUT Other players prefer easy soccer skills because they are sure they can do them.
2. Some players like difficult soccer skills because they enjoy trying to become good at them BUT Other players don't like to try difficult soccer skills.
3. Some players don't like difficult soccer skills because they have to work too hard BUT Other players like difficult soccer skills because they find them more challenging.
4. Some players like to try new soccer skills that are more difficult to do BUT Other players would rather stick to soccer skills which are pretty easy.
5. Some players like skill that are pretty easy to do BUT Other players like those skills that make them work pretty hard.

Independent Mastery

6. When some players can't learn a skill right away they want the coach to help them BUT Other players would rather figure it out by themselves.
7. When some players make a mistake they would rather figure out the right way by themselves BUT Other players would rather ask the coach how to do it right.
8. If some players get stuck on a skill, they ask the coach for help BUT Other players keep trying to figure out the skill on their own.
9. Some players like to try to figure out how to do soccer skills on their own BUT Other players would rather ask the coach how it should be done.
10. Some players like to practice their skills without help BUT Other players like to have the coach help them practice their skills.

Table 20 continued...

Curiosity and Interest
11. Some players work on soccer skills to learn how to do them BUT Other players work on soccer skills because they're supposed to.
12. Some players practice because their coach tells them to BUT Other players practice to find out how good they can become.
13. Some players practice skills because they are interested in soccer BUT Other players practice soccer skills because their coach wants them to.
14. Some players would rather just learn only what they have to in soccer BUT Other players would rather learn as much as they can.

Soccer Commitment. The Sport Commitment Scale (Scanlan, Carpenter, Simons, Schmidt, & Keeler, 1993; Scanlan, Simons, Carpenter, Schmidt, & Keeler, 1993) was used to assess athletes' psychological desire and resolve to continue participating on their current soccer team (see Table 21). The scale consists of five items using a 5-point scale ranging from 1 (not at all/nothing at all) to 5 (very/a lot of things). Previous research has demonstrated reliability and validity with adolescent sport participants (e.g., Carpenter, Scanlan, Simons, & Lobel, 1993; Weiss & Weiss, 2003, 2006).

Table 21

Soccer Commitment Items

1. How dedicated are you to playing on this team?
2. How hard would it be for you to quit this team?
3. How determined are you to keep playing on this team?
4. Do you want to keep participating on this team?
5. What would you be willing to do to keep playing on this team?

Team Outcomes

Team Cohesion. The Group Environment Questionnaire (GEQ; Carron et al., 1985) was used to assess task and social cohesion on teams. Task cohesion consists of nine items and refers to team members' perceptions of the group working well together to achieve common goals. Social cohesion consists of nine items and refers to team members' perceptions of the group as close, unified, and harmonious. Participants responded to questions on a 9-point scale ranging from (1) strongly disagree to (9) strongly agree. Psychometric properties of the GEQ have been demonstrated with college-age participants (see Carron et al., 1998, for a review). Moran and Weiss (2006) modified some GEQ items based on low reliability in studies with adolescent populations (e.g., Bray & Whaley, 2001; Westre & Weiss, 1991). Four task items and two social items were modified according to recommendations made by a focus group of adolescent athletes. With their changes, acceptable reliability was achieved for both task and social cohesion scales. The modified version of the GEQ used by Moran and Weiss was employed in this study (see Table 22).

Table 22

Team Cohesion Subscales and Items

Task Cohesion
1. I am not happy with the amount of playing time I get.
2. *I am unhappy with my team's desire to win.*
3. This team does not give me enough opportunities to improve my personal performance.
4. I do not like the style of play on this team
5. Our team is united in trying to reach its goals for performance.
6. *We all take equal responsibility for any loss or performance by our team.*
7. Our team members have conflicting aspirations for the team's performance.
8. *If members of our team have problems in practice that affect other team members, everyone wants to help them so we can get back together as a team.*
9. *Members of our team do not communicate freely about each other's roles during competition or practice.*
Social Cohesion
10. I do not enjoy being part of the social activities of this team.
11. I am not going to miss the members of this team when the season ends.
12. Some of my best friends are on this team.
13. *I enjoy other parties more than team functions.*
14. For me, this team is one of the most important social groups to which I belong.
15. Members of our team would rather go out on their own then get together as a team.
16. Our team members rarely party together.
17. Our team would like to spend time together in the off-season.
18. *Members of our team do not hang out or support each other outside of practices and games.*

Note. Items in italics were adopted from Moran and Weiss (2006).

Collective Efficacy. The Collective Efficacy Questionnaire for Sports (CEQS; Feltz & Lirgg, 1998; Short et al., 2005) was used to assess team efficacy or how confident athletes feel about future team performance. The 20-item measure consists of five subscales—team ability, unity, persistence, preparation, and effort—which can be combined into a composite score (see Table 23). Using an 11-point scale ranging from (0) not at all confident to (10) extremely confident, athletes are asked to "rate your team's confidence, in terms of the upcoming game or competition, that your team has the ability to..." followed by a statement (e.g., outplay the opposing team). Reliability and validity of the CEQS have been reported with college-age (Short et al., 2005) and adolescent athletes (Glenn, 2003).

Table 23

Collective Efficacy Subscales and Items

Ability subscale
1. Outplay the opposing team.
2. Show more ability than the other team.
3. Play more skillfully than the opponent.
4. Perform better than the opposing team(s).
Unity subscale
5. Resolve conflicts.
6. Be united.
7. Keep a positive attitude.
8. Maintain effective communication
Persistence subscale
9. Perform under pressure.
10. Persist when obstacles are present.
11. Stay in the game when it seems like your team isn't getting any breaks.
12. Play well without your best player.
Preparation subscale
13. Be ready.
14. Mentally prepare for this competition.
15. Physically prepare for this competition.
16. Devise a successful strategy.
Effort subscale
17. Demonstrate a strong work ethic.
18. Play to its capabilities.
19. Show enthusiasm.
20. Overcome distractions.

Demographic Information

Athletes completed questions about their age, ethnicity, years participating on their current soccer team, and total number of years playing soccer. They also indicated how long they played soccer for their current head coach, how long they played soccer with the teammate they chose for the peer leadership ratings, and whether or not their chosen peer leader was a team captain. Coaches completed questions about age, gender, ethnicity, years of experience, and coaching education.

Procedure

First, permission was granted from the university institutional review board to conduct the study (see Appendix D). To recruit participants, I sent a letter explaining the study purpose to coaches of age-eligible club teams to request permission to conduct the study with their teams. Once coaches agreed to allow their teams to participate, a letter describing the study and parental consent form were sent home with the athletes. They were asked to return the signed parent consent on the day of data collection. Appendix E contains letters sent to coaches and parents.

Prior to the main data collection, a pilot study was conducted to evaluate comprehension of questionnaire items. A high school girls' soccer team (n = 13) and their coach completed the survey. All participants reported that they understood the survey instructions and questions; thus no changes were made to the athlete or coach surveys.

Data were collected before or after a scheduled team meeting or practice during the middle of the soccer season. This allowed adequate time for participants to become familiar with their teammates and coaches in relation to their team experiences. Collecting data before or after a practice or team meeting helped prevent effects of a competitive environment from influencing the results. On the day of data collection, participants who provided parent consent were given a brief overview of the study and asked to sign an assent form. Participants were then given instructions and allotted sufficient time for completing the survey. The survey took athletes 25-45 minutes to complete. Surveys were collected from a total of 446 participants. Thirty-four questionnaires were discarded because they were deemed unusable based on study criteria (i.e., missing many data points, insufficient number of team members, length of

participation on team). Thus, analyses were conducted with the final sample of 412 participants. See Appendix F for a complete version of the athlete survey.

Design and Data Analysis

First, internal consistency of all outcome measures was determined using alpha coefficients. Second, descriptive statistics are reported for all outcome variables including means, standard deviations, and correlations. Third, confirmatory factor analysis was conducted on responses to the Multifactor Leadership Questionnaire—one analysis with peer leadership and one with coach leadership. A few missing random data points were addressed by replacing them with the harmonic mean. This ensured the total sample size of 412 to estimate model fit.

Finally, structural equation modeling was conducted with LISREL 8.8 (Jöreskog & Sörbum, 2006) to investigate a series of models reflecting study purposes. First, relationships among peer leadership and individual outcomes were tested, while a second model tested the unique influence of peer leadership on task cohesion, social cohesion, and collective efficacy. Next, two separate models were tested to examine the unique influence of coach leadership on the same individual and team outcomes. Lastly, to understand how peer and coach leadership work in tandem to influence individual and team outcomes, two separate models were tested to investigate the combined influence of coach and peer leadership on athletes' individual and team outcomes, respectively.

Results

Scale Reliabilities for Individual and Team Outcomes

All scales achieved acceptable reliability (see Table 24). Item analysis (i.e., inter-item correlations, squared multiple correlation, item-total correlation) revealed that one item on the task cohesion scale was unreliable ("I am not happy with the amount of playing time I get"), meaning that athletes' level of satisfaction with playing time did not fit with other items on the scale. Thus, this item was removed. Item analysis also revealed that the independent mastery subscale was weakly correlated with the other two intrinsic motivation subscales (r's ranging from .00 to .06). Given that youth sport is a context in which athletes are encouraged to ask their coach for help, it makes sense that athletes can be intrinsically motivated to pursue challenging tasks, but not without seeking advice from their coach. As a result, the independent mastery subscale was removed and athletes' intrinsic motivation was computed based on the curiosity/interest and preference for challenge subscales.

Table 24

Alpha Coefficients for Measures of Individual and Team Outcomes

Scale	Alpha Coefficient	Final Number of Items
Individual Outcomes		
Perceived Soccer Competence	.77	5
Soccer Enjoyment	.87	3
Soccer Commitment	.87	5
Intrinsic Motivation		
• Curiosity/Interest	.75	5
• Preference for Challenge	.78	4
Team Outcomes		
Task Cohesion	.77	8
Social Cohesion	.78	9
Collective Efficacy		
• Ability	.89	5
• Effort	.81	5
• Persistence	.80	5
• Preparation	.84	5
• Unity	.83	5

Descriptive Statistics

Table 25 depicts means, standard deviations, and correlations between individual outcomes. Athletes scored just above the midpoint on perceived soccer competence, while they reported relatively high levels of intrinsic motivation, enjoyment, and commitment. Thus, athletes were moderately confident about their soccer ability, they pursued challenging activities, found joy in playing soccer, and were determined to continue playing soccer. Correlations were low to moderate among all individual outcomes with the exception that enjoyment and commitment strongly correlated.

The relatively high correlation (r = .79) between enjoyment and commitment raised concerns of multicollinearity. While enjoyment and commitment are conceptually distinct constructs, they overlap empirically in many studies (e.g., Carpenter et al., 1993;

Weiss, Kimmel, & Smith, 2001; Weiss & Weiss, 2007). To address this issue, commitment was removed from subsequent analyses. Commitment, rather than enjoyment, was excluded because the remaining individual outcomes are inclusive of affective (e.g., enjoyment), behavioral (e.g., intrinsic motivation), and cognitive (e.g., perceived soccer competence) variables.

Table 25

Correlations Among Individual Outcomes (N = 412)

		1	2	3	4
1.	Perceived Soccer Competence	.77			
2.	Intrinsic Motivation	.45	.87		
3.	Soccer Enjoyment	.23	.25	.87	
4.	Soccer Commitment	.25	.28	.79	.87
	M	2.83	3.23	4.59	4.52
	SD	.53	.53	.58	.60
	Scale Range	1-4	1-4	1-5	1-5

Note. Alpha coefficients are presented on the diagonal. $r > |.23|$ denote significant relationships ($p < .05$).

Means, standard deviations, and correlations among team outcomes are presented in Table 26. Athletes reported moderately high task and social cohesion and collective efficacy. Thus, athletes saw their teams as working well together and being united, and felt confident about future team performance. Task cohesion, social cohesion, and collective efficacy were moderately correlated with one another.

Table 26

Correlations Among Team Outcomes (N = 412)

		1	2	3
1.	Task Cohesion	.77		
2.	Social Cohesion	.59	.78	
3.	Collective Efficacy	.63	.40	.95
	M	7.06	6.78	7.80
	SD	1.25	1.34	1.40
	Scale Range	1-9	1-9	0-10

Note. Alpha coefficients are presented on the diagonal. $r > |.40|$ denote significant relationships ($p < .05$).

Purpose 1: Psychometric Properties of Multifactor Leadership Questionnaire

Confirmatory factor analysis was performed to determine validity of the Multifactor Leadership Questionnaire (MLQ-5X; Bass & Avolio, 2004) for assessing peer and coach leadership. This procedure was important because the MLQ-5X has been used sparingly in the sport domain. The specified target model for both peer and coach leadership included 8 latent factors (i.e., 4I's, contingent reward, management-by-exception active, management-by-exception passive, laissez-faire) and 36 observed items. Fit indices included chi-square (χ^2), non-normed fit index (NNFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). Values greater than .90 represent a reasonable fit and values greater than .95 demonstrate a good fit of the model to the data (Hu & Bentler, 1999; Schumaker & Lomax, 2004). RMSEA values less than .08 indicate reasonable model fit, while values less than .05 indicate good model fit. Parameters were estimated for significance, $t > |1.96|$, and factor loadings and uniquenesses were reported for each observed variable.

Peer leadership. The initial run using the 8-factor target model (see Figure 9) resulted in a phi matrix that was not positive definite. This result suggested that multicollinearity among the latent factors was an issue (Schumacker & Lomax, 2004). Table 27 depicts the correlations among the latent leadership factors for this initial run.

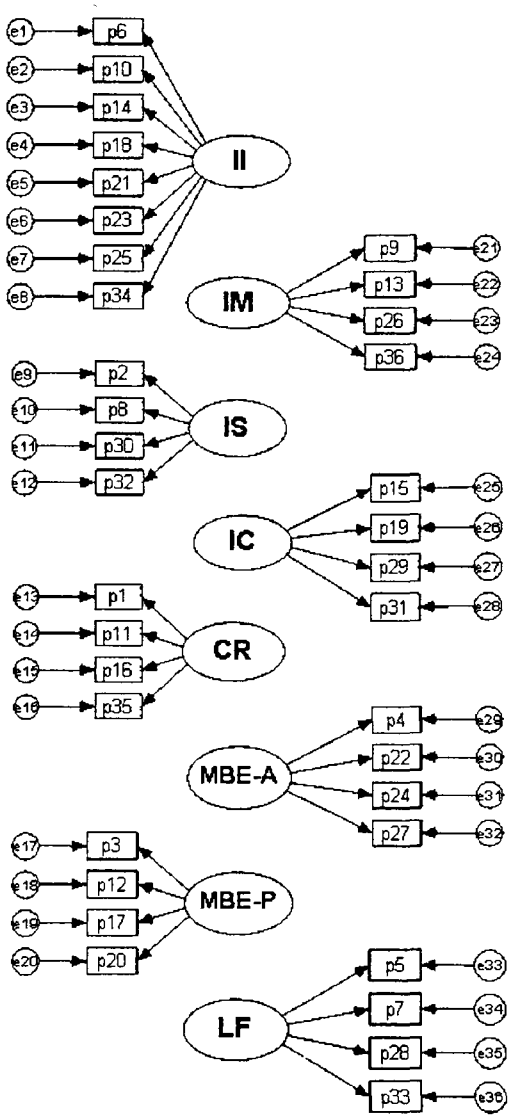

Figure 9. Target Measurement Model for Peer Leadership
Note: *Correlations among latent factors were estimated. Initials represent MLQ-5X subscales: II = idealized influence, IM = inspirational motivation, IS = intellectual stimulation, IC = individualized consideration, MBE-A = management-by-exception active, MBE-P = management-by-exception passive, LF = laissez-faire*

Table 27

Phi Matrix for 8-Factor Target Model for Peer Leadership

	1	2	3	4	5	6	7	8
1. Idealized Influence	—							
2. Inspirational Motivation	.95	—						
3. Intellectual Stimulation	.84	.66	—					
4. Individualized Consideration	.93	.77	1.07	—				
5. Contingent Reward	.95	.85	.93	.97	—			
6. Management-by-exception (active)	.10	.03	.28	.16	.27	—		
7. Management-by-exception (passive)	-.14	-.19	-.04	-.04	-.12	.51	—	
8. Laissez-faire	-.37	-.50	-.17	-.33	-.29	.48	.88	—

Note. Multicollinearity represented by gray shading.

The phi matrix shows that the 4I's and contingent reward were highly correlated, as were management-by-exception passive and laissez-faire. Thus, based on this pattern of relationships and previous research (see Bass & Avolio, 2004), the first five factors were integrated and named *transformational*. Management-by-exception active was not highly correlated with the other factors and was renamed *corrective* to better represent the focus on pointing out mistakes. Management-by-exception passive and laissez-faire were combined and renamed *passive/avoidant*. As a result, the 8-factor target model was reduced to three factors and reanalyzed (see Figure 10). The model showed a reasonable fit to the data, χ^2 (591) = 1479, $p < .05$, NNFI = .92, CFI = .93, and RMSEA = .065 (90% *CI* = 0.061 – 0.069). Modification indices showed no theoretically justified changes. Factor loadings and uniquenesses for each observed variable can be found in Table 28.

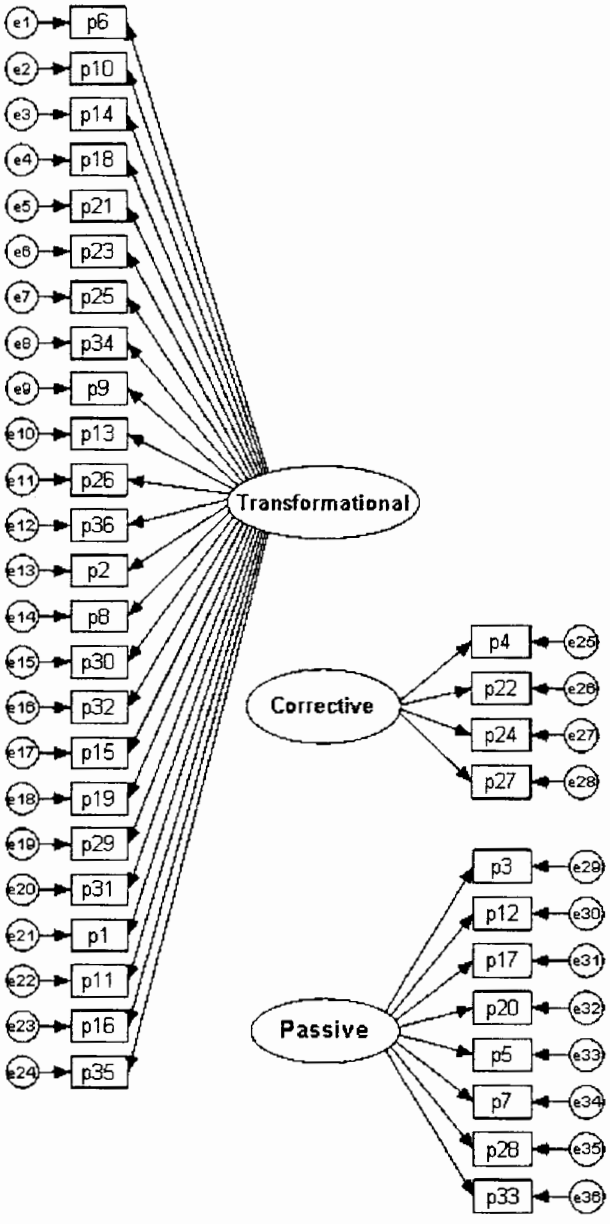

Figure 10. Final Measurement Model for Peer Leadership
Note: Passive refers to *passive/avoidant* factor. Correlations among latent factors were estimated.

Table 28

Factor Loadings and Uniquenesses for Final Measurement Model for Peer Leadership (N = 412)

Item	Item Wording	Factor Loading	Uniqueness
p6	Talks about her most important values and beliefs.	.32*	.90
p10	Instills pride in me for being associated with her.	.51	.74
p14	Specifies the importance of having a strong sense of purpose.	.59	.65
p18	Goes beyond self-interest for the good of the group.	.63	.60
p21	Acts in ways that builds my respect.	.66	.57
p23	Considers the moral and ethical consequences of decisions.	.60	.64
p25	Displays a sense of power and confidence.	.41	.83
p34	Emphasizes the importance of having a collective sense of mission.	.48	.77
p9	Talks optimistically about the future.	.44	.81
p13	Talks enthusiastically about what needs to be accomplished.	.47	.78
p26	Articulates a compelling vision of the future.	.60	.65
p36	Expresses confidence that goals will be achieved.	.60	.64
p2	Re-examines critical assumptions to question whether they are appropriate.	.49	.76
p8	Seeks differing perspectives when solving problems.	.58	.66
p30	Gets me to look at problems from many different angles.	.58	.67
p32	Suggests new ways of looking at how to complete assignments.	.62	.62
p15	Spends time teaching and coaching.	.55	.70
p19	Treats me as an individual rather than just a member of a group.	.40	.84
p29	Considers me as having different needs, abilities, and aspirations from others.	.36	.87
p31	Helps me to develop my strengths.	.64	.59
p1	Provides me with assistance in exchange for my efforts.	.57	.67
p11	Discusses in specific terms who is responsible for achieving performance targets.	.38	.86
p16	Makes clear what one can expect to receive when performance goals are achieved.	.54	.71
p35	Expresses satisfaction when I meet expectations.	.60	.64

Table 28 continued...

p4	Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.	.67*	.56
p22	Concentrates her full attention on dealing with mistakes, complaints, and failures.	.54	.71
p24	Keeps track of all mistakes.	.67	.56
p27	Directs my attention toward failures to meet standards.	.72	.48
p3	Fails to interfere until problems become serious.	.50*	.75
p12	Waits for things to go wrong before taking action.	.59	.65
p17	Shows that she is a firm believer in "if it ain't broke don't fix it."	.31	.90
p20	Demonstrates that problems must become chronic before taking action.	.58	.66
p5	Avoids getting involved when important issues arise.	.49	.76
p7	Is absent when needed.	.44	.81
p28	Avoids making decisions.	.43	.82
p33	Delays responding to urgent questions.	.42	.83

* Denotes parameter estimates that were fixed to 1. All factor loadings were significant, $t > |1.96|$

Table 29 displays means, standard deviations, and correlations among peer leadership factors. Girls perceived their athlete leaders to be higher in transformational leadership behaviors than corrective and passive/avoidant leadership behaviors. Passive/avoidant peer leadership behaviors were relatively low, indicating that girls felt that peer leaders did not show a lack of leadership. The correlation between transformational and corrective leadership was low and positive, while the correlation between transformational and passive/avoidant leadership behaviors was low and negative. Lastly, corrective and passive/avoidant peer leadership behaviors were positively and moderately correlated.

Table 29

Correlations Among Peer Leadership Factors (N = 412)

		1	2	3
1.	Peer Transformational Leadership	.90		
2.	Peer Corrective Leadership	.17	.74	
3.	Peer Passive/Avoidant Leadership	-.22	.52	.69
	M	2.71	1.71	1.18
	SD	.54	.88	.59
	Scale Range	0-4	0-4	0-4

Note: Alpha coefficients are presented on the diagonal. All *t* values were significant ($p < .05$).

Coach leadership. Similar to the peer leadership CFA, the initial run of the 8-factor target model for coach leadership (see Figure 11) resulted in a phi matrix that was not positive definite. Multicollinearity was evident among the latent factors (see Table 30). The pattern of relationships revealed that the 4I's and contingent reward were highly correlated, as were management-by-exception passive and laissez-faire. The relationships among factors paralleled those of the peer leadership CFA. Thus, the same 3-factor model was created by combining the 4I's and contingent reward into a *transformational* factor and management-by-exception passive and laissez-faire into a *passive/avoidant* factor. Management-by-exception active was a separate factor and renamed *corrective* (see Figure 12).

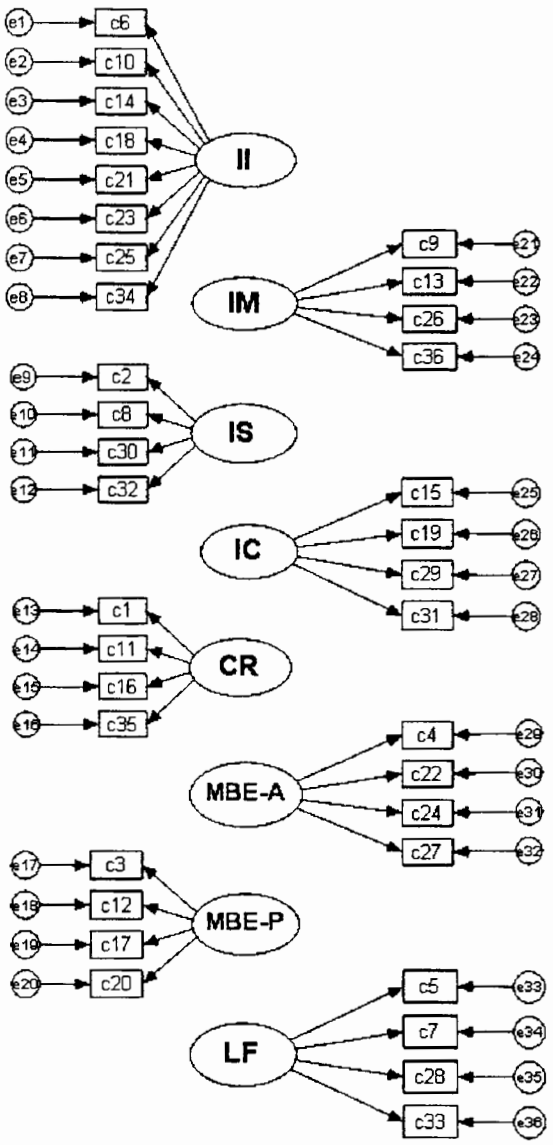

Figure 11. Target Measurement Model for Coach Leadership
Note: Correlations among latent factors were estimated. Initials represent MLQ-5X subscales: II = idealized influence, IM = inspirational motivation, IS = intellectual stimulation, IC = individualized consideration, MBE-A = management-by-exception active, MBE-P = management-by-exception passive, LF = laissez-faire

Table 30

Phi Matrix for 8-Factor Target Model for Coach Leadership

		1	2	3	4	5	6	7	8
1.	Idealized Influence	—							
2.	Inspirational Motivation	.95	—						
3.	Intellectual Stimulation	.85	.72	—					
4.	Individualized Consideration	.99	.93	.90	—				
5.	Contingent Reward	.97	.89	.82	1.02	—			
6.	Management-by-exception (active)	.03	-.06	.17	-.04	.10	—		
7.	Management-by-exception (passive)	-.34	-.38	-.12	-.36	-.30	.35	—	
8.	Laissez-faire	-.47	-.39	-.22	-.44	-.36	.34	.85	—

Note. Multicollinearity represented by gray shading.

Confirmatory factor analysis revealed that the 3-factor measurement model showed a reasonable fit to the data: $\chi^2(591) = 1469$, $p < .05$, NNFI = .94, CFI = .94, and RMSEA = .064 (90% *CI* = 0.059 – 0.067). No theoretically justified changes were warranted based on the modification indices. Factor loadings and uniquenesses for observed variables can be found in Table 31.

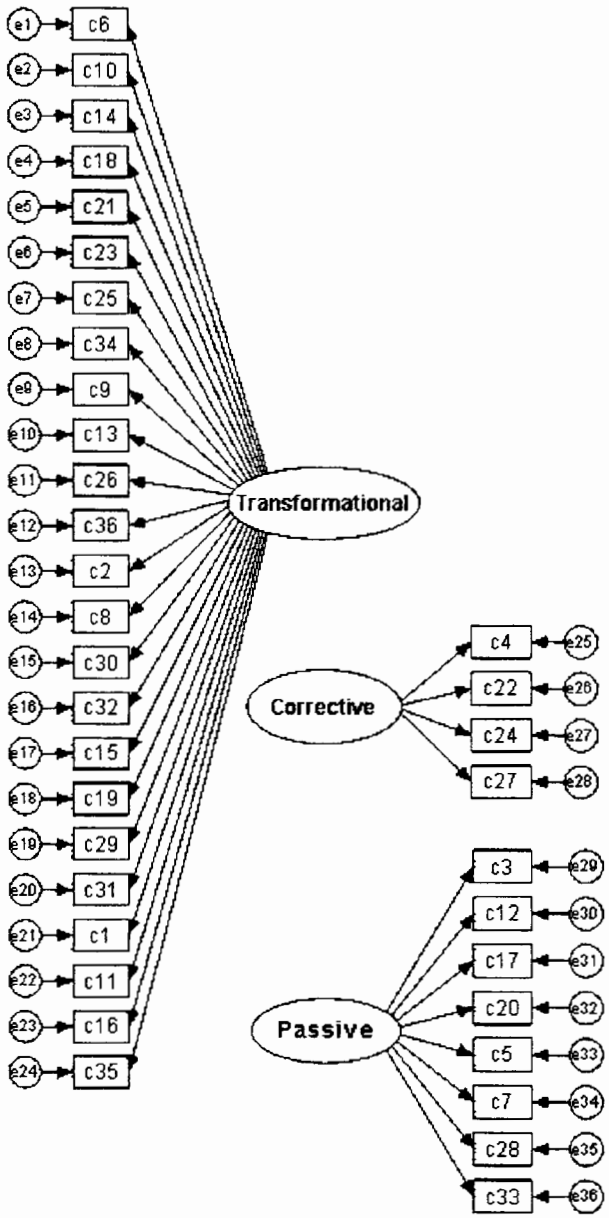

Figure 12. Final Measurement Model for Coach Leadership
Note: Passive refers to *passive/avoidant* factor. Correlations among latent factors were estimated.

Table 31

Factor Loadings and Uniquenesses for Final Measurement Model for Coach Leadership (N = 412)

Item	Item Wording	Factor Loading	Uniqueness
c6	Talks about his/her most important values and beliefs.	.24*	.94
c10	Instills pride in me for being associated with her.	.65	.58
c14	Specifies the importance of having a strong sense of purpose.	.57	.68
c18	Goes beyond self-interest for the good of the group.	.71	.50
c21	Acts in ways that builds my respect.	.76	.42
c23	Considers the moral and ethical consequences of decisions.	.49	.76
c25	Displays a sense of power and confidence.	.55	.70
c34	Emphasizes the importance of having a collective sense of mission.	.52	.73
c9	Talks optimistically about the future.	.50	.76
c13	Talks enthusiastically about what needs to be accomplished.	.57	.68
c26	Articulates a compelling vision of the future.	.61	.63
c36	Expresses confidence that goals will be achieved.	.66	.57
c2	Re-examines critical assumptions to question whether they are appropriate.	.56	.68
c8	Seeks differing perspectives when solving problems.	.45	.79
c30	Gets me to look at problems from many different angles.	.65	.58
c32	Suggests new ways of looking at how to complete assignments.	.67	.56
c15	Spends time teaching and coaching.	.61	.63
c19	Treats me as an individual rather than just a member of a group.	.55	.69
c29	Considers me as having different needs, abilities, and aspirations from others.	.29	.92
c31	Helps me to develop my strengths.	.75	.44
c1	Provides me with assistance in exchange for my efforts.	.68	.54
c11	Discusses in specific terms who is responsible for achieving performance targets.	.34	.89
c16	Makes clear what one can expect to receive when performance goals are achieved.	.55	.69
c35	Expresses satisfaction when I meet expectations.	.53	.62

Table 31 continued...

c4	Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.	.73*	.55
c22	Concentrates her full attention on dealing with mistakes, complaints, and failures.	.61	.55
c24	Keeps track of all mistakes.	.67	.65
c27	Directs my attention toward failures to meet standards.	.67	.52
c3	Fails to interfere until problems become serious.	.59*	.91
c12	Waits for things to go wrong before taking action.	.69	.70
c17	Shows that he/she is a firm believer in "if it ain't broke don't fix it."	.30	.61
c20	Demonstrates that problems must become chronic before taking action.	.55	.73
c5	Avoids getting involved when important issues arise.	.62	.72
c7	Is absent when needed.	.52	.74
c28	Avoids making decisions.	.53	.62
c33	Delays responding to urgent questions.	.51	.55

* Denotes parameter estimates that were fixed to 1. All factor loadings were significant, $t > |1.96|$

Means, standard deviations, and correlations among coach leadership factors are presented in Table 32. Coaches were viewed as being higher in transformational leadership than other behaviors. Corrective behaviors were slightly above the midpoint, while passive/avoidant behaviors were low. Coach transformational and passive/avoidant leadership behaviors were moderately and negatively related, while transformational and corrective behaviors were not related. Corrective leadership behaviors were positively and moderately correlated with passive/avoidant behaviors.

Table 32

Correlations Among Coach Leadership Factors (N = 412)

		1	2	3
1. Coach Transformational Leadership		.91		
2. Coach Corrective Leadership		.04	.77	
3. Coach Passive/Avoidant Leadership		-.37	.36	.76
	M	3.20	2.18	1.05
	SD	.52	.94	.68
	Scale Range	0-4	0-4	0-4

Note: Alpha coefficients are presented on the diagonal.

Purpose 2: Unique Influence of Peer Leadership on Individual and Team Outcomes

Two separate structural models were tested, one for individual and one for team outcomes. Subscale scores and item parcels were chosen to account for the relatively large number of parameters that would be needed to test the measurement properties using structural equation modeling (Little, Cunningham, Shahar, & Widaman, 2002). Randomized item parcels were created and used as observed variables for peer transformational and passive/avoidant leadership behaviors, perceived soccer competence, intrinsic motivation, and task and social cohesion. Randomized subscale parcels were used as observed variables for collective efficacy, while individual items were used as observed variables for peer corrective leadership behaviors and enjoyment. Equations for all created item parcels can be found in Appendix H.

Fit indices included chi-square (χ^2), NNFI, CFI, goodness-of-fit (GFI), and RMSEA. Values greater than .90 represent a reasonable fit and values greater than .95 demonstrate a good fit of the model to the data (Hu & Bentler, 1999; Schumaker & Lomax, 2004). RMSEA values less than .08 indicate reasonable model fit, while values

less than .05 indicate good model fit. Modification indices were examined and only theoretically justified changes were considered to improve model fit. Parameter estimates were tested for significance, $t > |1.96|$.

Individual outcomes. The target model identified relationships among peer leadership behaviors and individual outcomes (see Figure 13). Specifically, peer transformational, corrective, and passive/avoidant leadership behaviors were specified as latent predictors of athletes' latent psychological responses (i.e., perceived competence, enjoyment, intrinsic motivation).

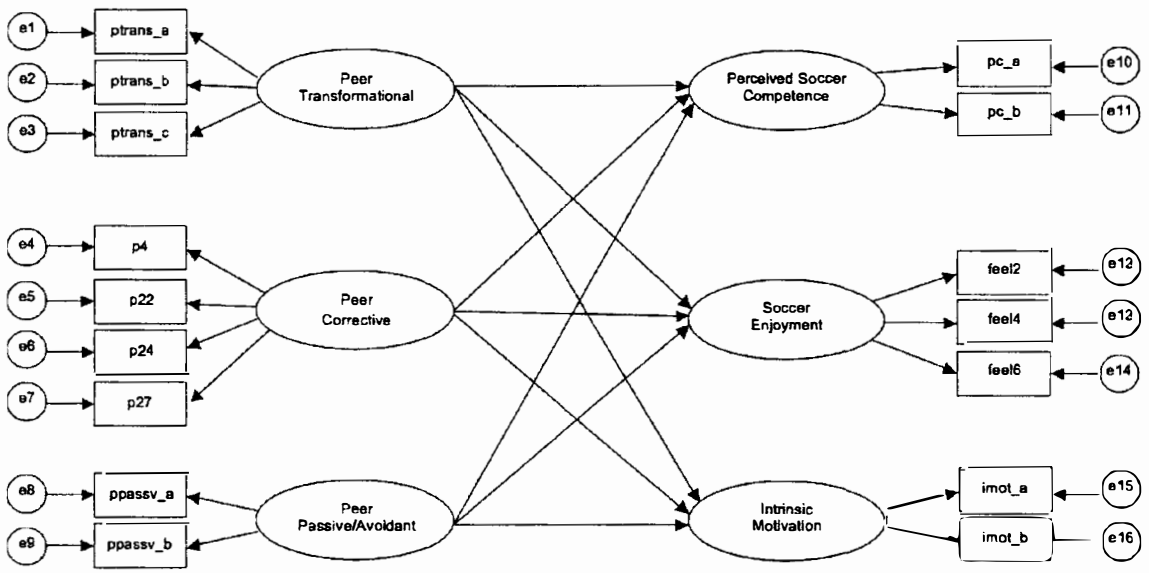

Figure 13. Target Model for Peer Leadership with Individual Outcomes
Note: Correlations among leadership factors and among outcome variables were estimated.

The model showed a good fit to the data, χ^2 (89) = 138, $p < .05$, NNFI = .98, CFI = .99, GFI = .96, and RMSEA = .033 (90% *CI* = 0.020 – 0.045). Modification indices did not reveal any theoretically justified changes. Factor loadings and uniquenesses for the measurement model can be found in Table 33.

Table 33

Measurement Model: Completely Standardized Factor Loadings for Peer Leadership with Individual Outcomes (N = 412)

Parcel/Item	Factor Loading	Uniqueness
Peer Transformational Leadership		
ptrans_a	.86*	.26
ptrans_b	.88	.23
ptrans_c	.89	.21
Peer Corrective Leadership		
p4	.66*	.56
p22	.54	.71
p24	.67	.55
p27	.72	.48
Peer Passive/Avoidant Leadership		
ppassv_a	.84*	.29
ppassv_b	.64	.59
Perceived Competence		
pc_a	.82*	.33
pc_b	.87	.24
Enjoyment		
feel2	.75*	.44
feel4	.84	.29
feel6	.90	.20
Intrinsic Motivation		
imot_a	.81*	.35
imot_b	.98	.03

Note: * Denotes parameter estimates fixed to 1. All loadings were significant, $t > |1.96|$.

Two significant paths emerged for peer leadership and individual outcomes (see Table 34 and Figure 14). Transformational leadership was positively related to soccer enjoyment and intrinsic motivation. This means that peer leaders who use more frequent behaviors such as inspiring, motivating, enhancing creativity, problem solving, and contingent rewarding are associated with teammates who enjoy playing soccer, are motivated to pursue challenging tasks, and are inherently interested in learning new skills. The model explained 11.5% of the variance in enjoyment, 4.1% of the variance in intrinsic motivation, and 1% of the variance in perceived competence.

Table 34

Path Coefficients for the Unique Influence of Peer Leadership on Individual Outcomes (N = 412)

Path	Path Coefficient	*t* value
Peer Transformational → Perceived Competence	.06	.85
Peer Transformational → Enjoyment	.33	5.11
Peer Transformational → Intrinsic Motivation	.21	3.40
Peer Corrective → Perceived Competence	-.09	-1.02
Peer Corrective Leadership → Enjoyment	-.07	-.89
Peer Corrective → Intrinsic Motivation	-.03	-.39
Peer Passive/Avoidant → Perceived Competence	.05	.53
Peer Passive/Avoidant → Enjoyment	-.05	-.59
Peer Passive/Avoidant → Intrinsic Motivation	-.00	-.05

Note: *t* values > |1.96| are significant ($p < .05$).

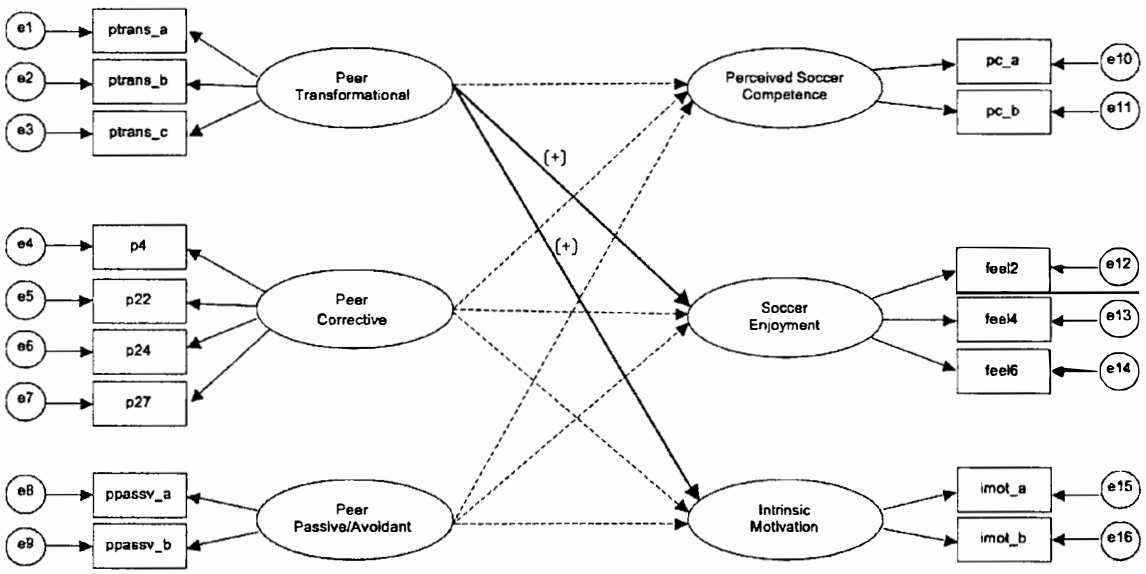

Figure 14. Final Model for Peer Leadership with Individual Outcomes
Note: Solid lines represent significant paths; dashed lines denote non-significant paths. Correlations among leadership factors and among outcome variables were estimated.

Team outcomes. A second model was tested that explored the unique influence of peer transformational, corrective, and passive/avoidant leadership behaviors on task and social cohesion and collective efficacy (see Figure 15). The specified model demonstrated a good fit to the data, χ^2 (75) = 135, $p < .05$, NNFI = .98, CFI = .98, GFI = .96, and RMSEA = .043 (90% *CI* = 0.031 – 0.055). Modification indices did not show any theoretically justified changes. Table 35 represents factor loadings and uniquenesses for the measurement model.

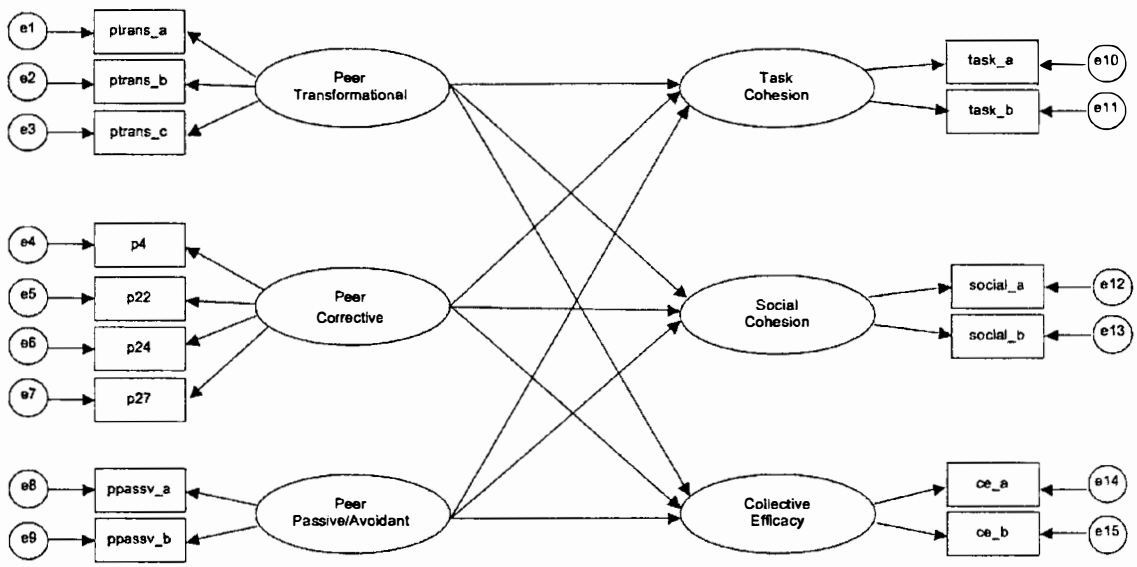

Figure 15. Target Model for Peer Leadership with Team Outcomes
Note: Correlations among leadership factors and among outcome variables were estimated.

Table 35

Measurement Model: Completely Standardized Factor Loadings for Peer Leadership with Team Outcomes (N = 412)

Parcel/Item	Standardized Factor Loading	Uniqueness
Peer Transformational Leadership		
ptrans_a	.86*	.26
ptrans_b	.88	.23
ptrans_c	.89	.22
Peer Corrective Leadership		
p4	.66*	.56
p22	.55	.70
p24	.67	.55
p27	.71	.49
Peer Passive/Avoidant Leadership		
ppassv_a	.87*	.25
ppassv_b	.62	.62
Task Cohesion		
task_a	.83*	.31
task_b	.76	.43
Social Cohesion		
social_a	.86*	.26
social_b	.76	.42
Collective Efficacy		
ce_a	.88*	.23
ce_b	.98	.05

Note: * Denotes parameter estimates fixed to 1. All loadings were significant, $t > |1.96|$.

The structural model revealed several significant paths between peer leadership and team outcomes (see Table 36 and Figure 16). Transformational leadership was positively related to task cohesion, social cohesion, and collective efficacy. This means that peer leaders who use more frequent autonomy supportive, inspirational, problem solving, and contingent rewarding behaviors were associated with athletes who reported higher levels of group cooperation, harmony, and confidence within their teams. By contrast, corrective and passive/avoidant leadership were negatively related to task cohesion. Peer leaders who were viewed as using more frequent corrective behaviors or who lacked leadership were associated with athletes who reported their teams did not

work well together to achieve goals. The model explained 20.7%, 8.9%, and 9.7% of the variance in task cohesion, social cohesion, and collective efficacy, respectively.

Table 36

Path Coefficients for the Unique Influence of Peer Leadership on Team Outcomes (N = 412)

Path	Path Coefficient	*t* value
Peer Transformational → Task Cohesion	.35	5.39
Peer Transformational → Social Cohesion	.28	4.20
Peer Transformational → Collective Efficacy	.29	4.82
Peer Corrective Leadership → Task Cohesion	-.17	-2.10
Peer Corrective → Social Cohesion	-.08	-1.02
Peer Corrective → Collective Efficacy	-.13	-1.67
Peer Passive/Avoidant → Task Cohesion	-.17	-2.05
Peer Passive/Avoidant → Social Cohesion	-.06	-.78
Peer Passive /Avoidant→ Collective Efficacy	-.04	-.58

Note: *t* values > |1.96| are significant ($p < .05$).

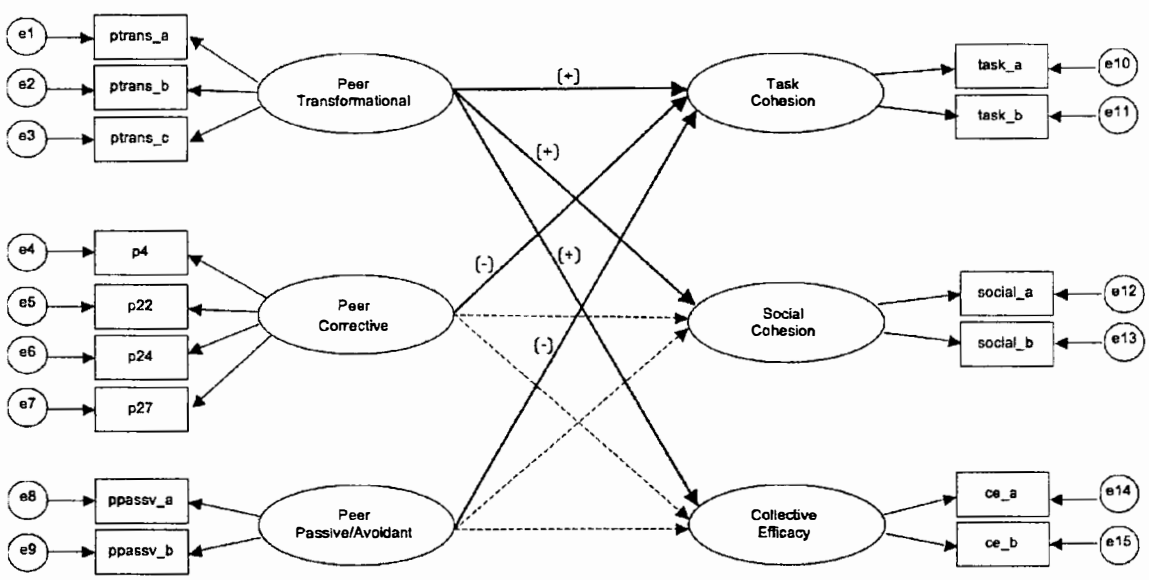

Figure 16. Final Model for Peer Leadership with Team Outcomes
Note: Solid lines represent significant paths; dashed lines denote non-significant paths. Correlations among leadership factors and among outcome variables were estimated.

Purpose 3: Unique Influence of Coach Leadership on Individual and Team Outcomes

Two separate structural models were tested, one for individual and one for team outcomes. Subscale scores and item parcels were chosen to account for the relatively large number of parameters that would be needed to test the measurement properties using structural equation modeling (Little et al., 2002). Randomized item parcels were created and used as observed variables for coach transformational and passive/avoidant leadership behaviors, perceived soccer competence, intrinsic motivation, and task and social cohesion. Randomized subscale parcels were used as observed variables for collective efficacy, while individual items were used as observed variables for coach corrective leadership behaviors and enjoyment.

Fit indices included chi-square (χ^2), GFI, NNFI, CFI, and RMSEA. Values greater than .90 represent a reasonable fit and values greater than .95 demonstrate a good fit of the model to the data. RMSEA values less than .08 indicate reasonable model fit, while values less than .05 indicate good model fit. Modification indices were examined and only theoretically justified changes were considered to improve model fit. Parameter estimates were tested for significance, $t > |1.96|$.

Individual outcomes. Coach transformational, corrective, and passive/avoidant leadership behaviors were examined in relation to athletes' perceived competence, enjoyment, and intrinsic motivation. Figure 17 illustrates the target model for the unique influence of coach leadership on individual outcomes. The specified model showed a good fit to the data, χ^2 (89) = 123, $p < .05$, NNFI = .99, CFI = .99, GFI = .97, and RMSEA = .028 (90% *CI* = .011 – .041). Evaluation of modification indices determined

no theoretically justified changes. Factor loadings and uniquenesses for the measurement model can be seen in Table 37.

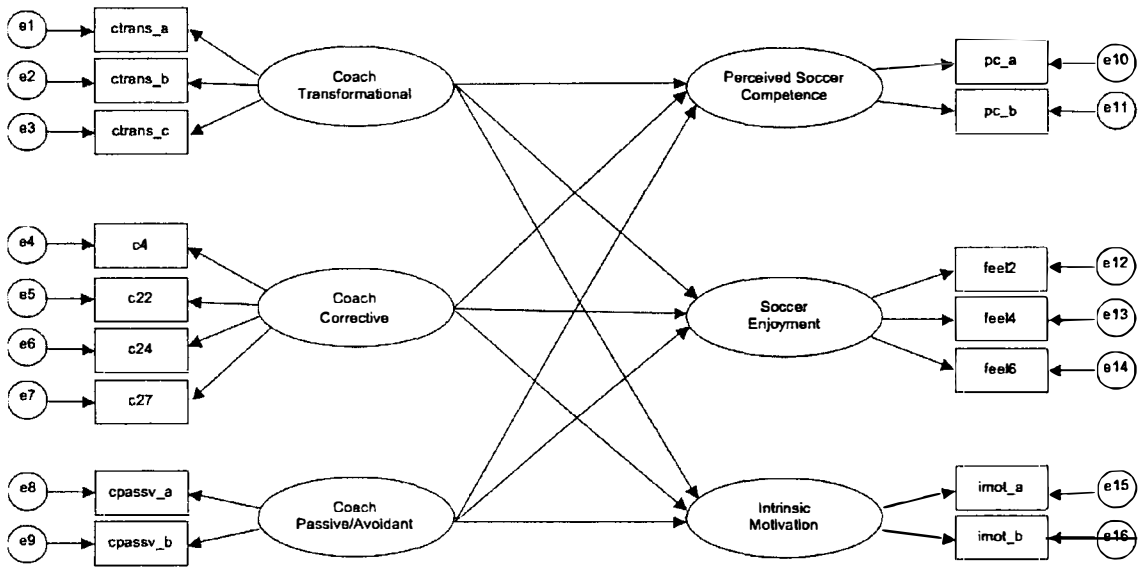

Figure 17. Target Model for Coach Leadership with Individual Outcomes
Note: Correlations among leadership factors and among outcome variables were estimated.

Several significant paths emerged between coach leadership and individual outcomes (see Table 38 and Figure 18). Transformational leadership was positively related to athletes' feelings of enjoyment, perceptions of competence, and level of intrinsic motivation, while corrective leadership behaviors negatively predicted these same dependent variables. These results mean that athletes who viewed their coaches as engaging in inspiring, motivating, and contingent rewarding behaviors reported feeling skilled at soccer, enjoyed playing soccer, and chose to pursue challenging skills. The negative relationship between corrective leadership behaviors and individual outcomes is not surprising because coaches who keep track of mistakes and errors likely decrease

athletes' positive psychological responses. The model explained 4.5% of the variance in perceived competence, 20.1% of the variance in enjoyment, and 4.6% of the variance in intrinsic motivation.

Table 37

Measurement Model: Completely Standardized Factor Loadings for Coach Leadership with Individual Outcomes (N = 412)

Parcel/Item	Factor Loading	Uniqueness
Coach Transformational Leadership		
ctrans_a	.89*	.21
ctrans_b	.89	.22
ctrans_c	.88	.22
Coach Corrective Leadership		
c4	.73*	.47
c22	.61	.62
c24	.67	.55
c27	.67	.56
Coach Passive/Avoidant Leadership		
cpassv_a	.87*	.25
cpassv_b	.78	.40
Perceived Competence		
pc_a	.83*	.32
pc_b	.87	.25
Enjoyment		
feel2	.75*	.44
feel4	.85	.28
feel6	.89	.21
Intrinsic Motivation		
imot_a	.80*	.35
imot_b	.99	.02

Note: * Denotes parameter estimates fixed to 1. All loadings were significant, $t > |1.96|$.

Table 38

Path Coefficients for the Unique Influence of Coach Leadership on Individual Outcomes (N = 412)

Path	Path Coefficient	*t* value
Coach Transformational --> Perceived Competence	.17	2.76
Coach Transformational --> Enjoyment	.46	7.65
Coach Transformational --> Intrinsic Motivation	.21	3.52
Coach Corrective --> Perceived Competence	-.19	-2.66
Coach Corrective Leadership --> Enjoyment	-.14	-2.17
Coach Corrective --> Intrinsic Motivation	-.15	-2.19
Coach Passive/Avoidant --> Perceived Competence	.11	1.52
Coach Passive/Avoidant --> Enjoyment	.06	.98
Coach Passive/Avoidant --> Intrinsic Motivation	.07	1.11

Note: *t* values > |1.96| are significant ($p < .05$).

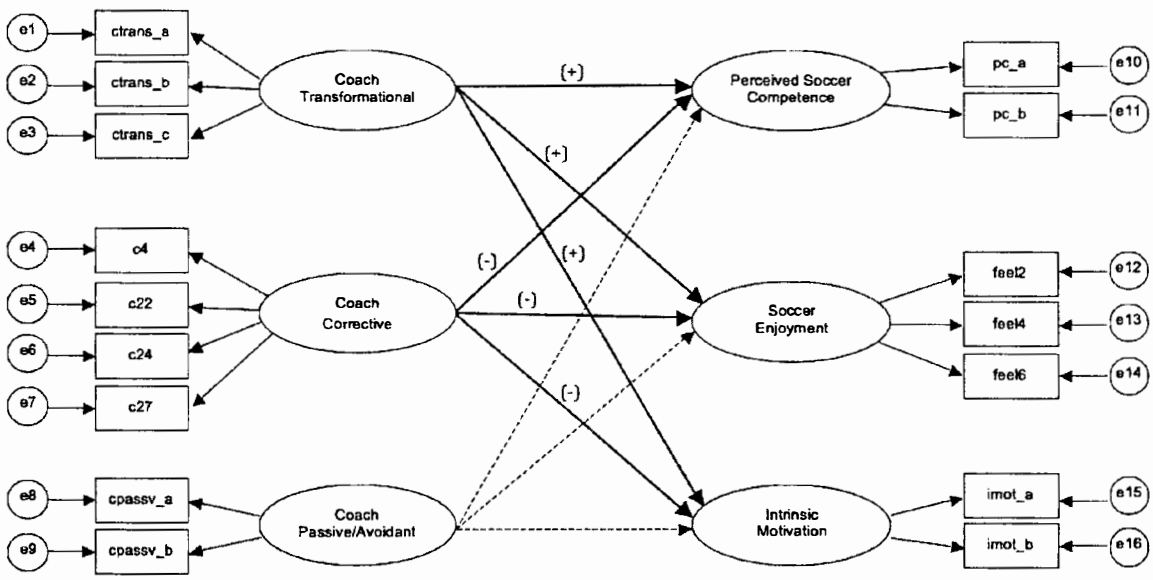

Figure 18. Final Model for Coach Leadership with Individual Outcomes
Note: Solid lines represent significant paths; dashed lines denote non-significant paths. Correlations among leadership factors and among outcome variables were estimated.

Team outcomes. The next model investigated the unique influence of transformational, corrective, and passive/avoidant leadership behaviors on task and social cohesion and collective efficacy (see Figure 19). The specified model demonstrated a good fit to the data, χ^2 (75) = 102, $p < .05$, NNFI = .99, CFI = .99, GFI = .97, and RMSEA = .031 (90% *CI* = .015 – .044). Modification indices did not show any theoretically justified changes. Table 39 shows factor loadings and uniquenesses for variables in the measurement model.

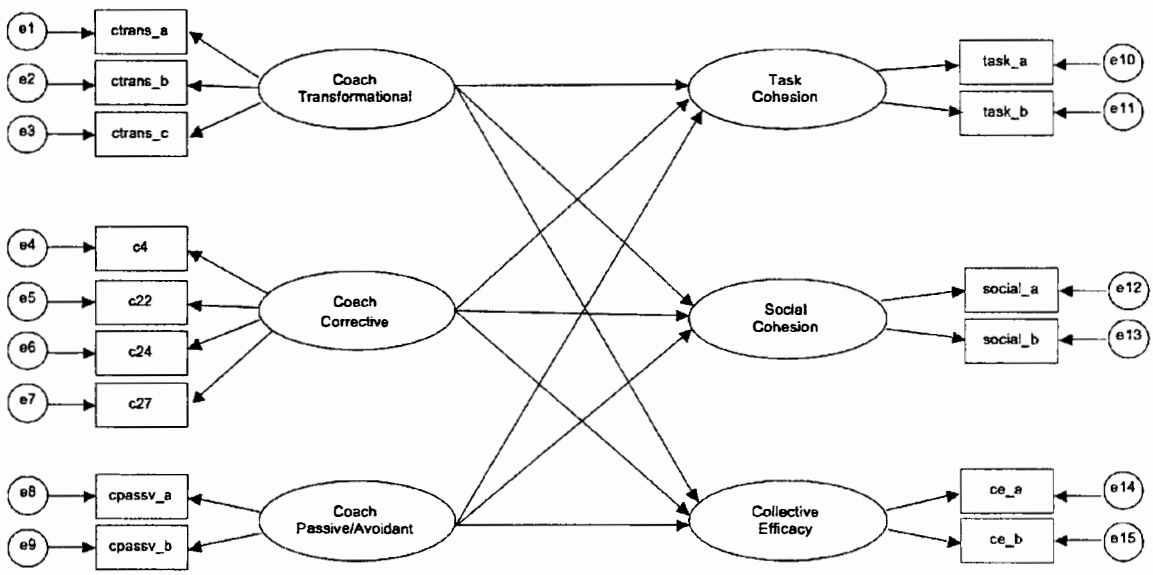

Figure 19. Target Model for Coach Leadership with Team Outcomes
Note: Correlations among leadership factors and among outcome variables were estimated.

Table 39

Measurement Model: Completely Standardized Factor Loadings for Coach Leadership with Team Outcomes (N = 412)

Parcel/Item	Factor Loading	Uniqueness
Coach Transformational Leadership		
ctrans_a	.89*	.21
ctrans_b	.89	.21
ctrans_c	.88	.22
Coach Corrective Leadership		
c4	.72*	.48
c22	.61	.63
c24	.68	.54
c27	.67	.55
Coach Passive/Avoidant Leadership		
cpassv_a	.88*	.22
cpassv_b	.76	.42
Task Cohesion		
task_a	.81*	.35
task_b	.78	.39
Social Cohesion		
social_a	.87*	.24
social_b	.75	.44
Collective Efficacy		
ce_a	.87*	.24
ce_b	.98	.04

Note: * Denotes parameter estimates fixed to 1. All loadings were significant, $t > |1.96|$.

Significant and positive paths emerged for transformational leadership behaviors and all three outcomes (i.e., task cohesion, social cohesion, collective efficacy), as did significant and negative paths from corrective leadership to task cohesion and collective efficacy (see Table 40 and Figure 20). These results mean that athletes who perceived coaches as using more frequent inspiring, motivational, and autonomy-supportive behaviors reported that their teams worked well together to achieve goals, felt united, and believed they will be successful in future performances. By contrast, athletes who perceived their coaches as regularly pointing out mistakes felt less confident about their team's ability to achieve goals and efficiently complete tasks. The model explained

20.4%, 5.4%, and 11.2% of the variance in task cohesion, social cohesion, and collective efficacy, respectively.

Table 40

Path Coefficients for the Unique Influence of Coach Leadership on Team Outcomes (N = 412)

Path	Path Coefficient	*t* value
Coach Transformational --> Task Cohesion	.40	6.52
Coach Transformational --> Social Cohesion	.21	3.35
Coach Transformational --> Collective Efficacy	.34	5.85
Coach Corrective Leadership --> Task Cohesion	-.23	-3.21
Coach Corrective --> Social Cohesion	-.10	-1.43
Coach Corrective --> Collective Efficacy	-.15	-2.34
Coach Passive/Avoidant --> Task Cohesion	-.02	-.33
Coach Passive/Avoidant --> Social Cohesion	-.03	-.35
Coach Passive/Avoidant --> Collective Efficacy	.05	.79

Note: *t* values > |1.96| are significant ($p < .05$).

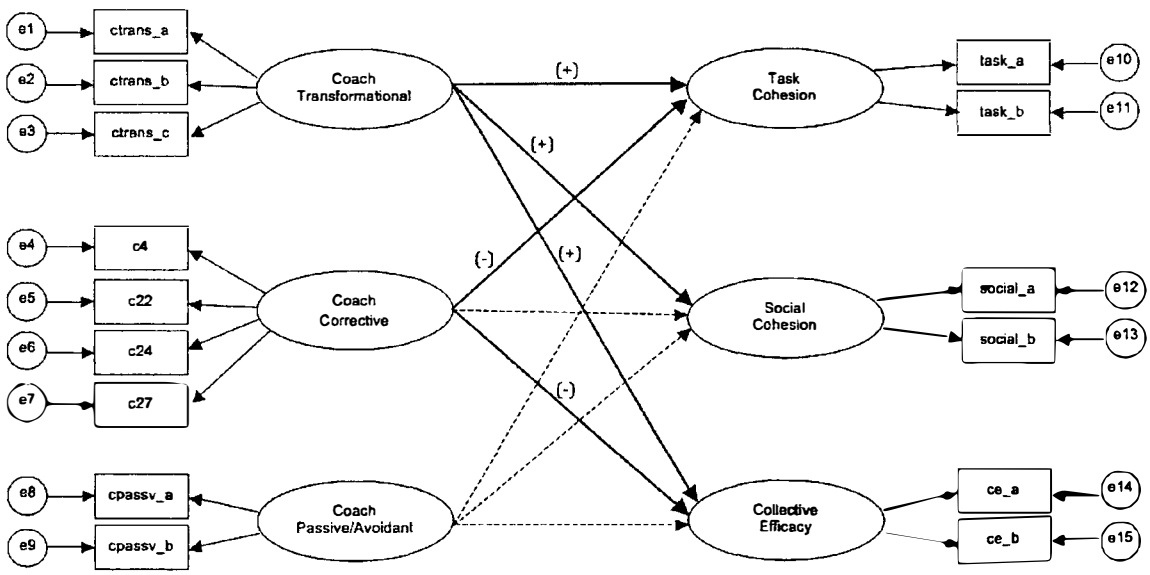

Figure 20. Final Model for Coach Leadership with Team Outcomes
Note: Solid lines represent significant paths; dashed lines denote non-significant paths. Correlations among leadership factors and among outcome variables were estimated.

Purpose 4: Combined Influence of Peer and Coach Leadership on Individual and Team Outcomes

The focus of Purpose 4 was on the *joint* influence of peer and coach leadership on individual and team outcomes. Peer and coach leadership were situated within the same model to determine their relative influence on athletes' psychological responses and team dynamics. The same protocol for item parcels, fit indices, and parameter estimation were used.

Individual outcomes. The target model for individual outcomes specified relationships among peer and coach transformational, corrective, and passive/avoidant leadership behaviors with athletes' perceived competence, enjoyment, and intrinsic motivation. The model showed a reasonable fit to the data, χ^2 (239) = 451, $p < .05$, NNFI = .97, CFI = .97, GFI = .92, and RMSEA = .044 (90% *CI* = .037 – .051). Modification indices did not reveal any theoretically justified changes. Table 41 provides a complete listing of all factor loadings and uniquenesses.

The structural model revealed only two significant paths for peer and coach leadership and individual outcomes (see Table 42 and Figure 21). Coach transformational leadership was positively related to athletes' perceived competence and enjoyment. This means that, when combined within the same model, coach transformational leadership behaviors were more influential than peer leadership behaviors on individual outcomes. Athletes who perceived their coaches as engaging in more frequent motivational and inspirational behaviors enjoyed playing soccer more and felt more confident in their abilities. The model explained 5.5% of the variance in perceived competence, 21.5% of the variance in enjoyment, and 6.6% of the variance in intrinsic motivation.

Table 41

Completely Standardized Factor Loadings for Peer and Coach Leadership with Individual Outcomes (N = 412)

Parcel/Item	Factor Loading	Uniqueness
Peer Transformational Leadership		
ptrans_a	.86*	.26
ptrans_b	.88	.23
ptrans_c	.88	.22
Coach Transformational Leadership		
ctrans_a	.89*	.21
ctrans_b	.89	.21
ctrans_c	.88	.23
Peer Corrective Leadership		
p4	.66*	.57
p22	.53	.72
p24	.67	.56
p27	.73	.46
Coach Corrective Leadership		
c4	.72*	.49
c22	.62	.62
c24	.68	.53
c27	.66	.56
Peer Passive/Avoidant Leadership		
ppassv_a	.71*	.50
ppassv_b	.76	.42
Coach Passive/Avoidant Leadership		
cpassv_a	.83*	.32
cpassv_b	.81	.34
Perceived Competence		
pc_a	.82*	.32
pc_b	.87	.24
Enjoyment		
feel2	.75*	.44
feel4	.84	.29
feel6	.89	.20
Intrinsic Motivation		
imot_a	.81*	.34
imot_b	.98	.03

Note: * Denotes parameter estimates fixed to 1. All loadings were significant, $t > |1.96|$.

Table 42

Path Coefficients for Peer and Coach Leadership on Individual Outcomes (N = 412)

Path	Path Coefficient	*t* value
Peer Transformational --> Perceived Competence	-.12	-1.16
Peer Transformational --> Enjoyment	.13	1.36
Peer Transformational --> Intrinsic Motivation	.11	1.14
Coach Transformational --> Perceived Competence	.24	2.57
Coach Transformational --> Enjoyment	.40	4.74
Coach Transformational --> Intrinsic Motivation	.14	1.70
Peer Corrective --> Perceived Competence	.13	.77
Peer Corrective Leadership --> Enjoyment	-.03	-.20
Peer Corrective --> Intrinsic Motivation	.12	.75
Coach Corrective --> Perceived Competence	-.29	-1.95
Coach Corrective Leadership --> Enjoyment	-.10	-.75
Coach Corrective --> Intrinsic Motivation	-.21	-1.57
Peer Passive/Avoidant --> Perceived Competence	-.09	-.52
Peer Passive/Avoidant --> Enjoyment	-.05	-.34
Peer Passive/Avoidant --> Intrinsic Motivation	-.04	-.24
Coach Passive/Avoidant --> Perceived Competence	.20	1.25
Coach Passive/Avoidant --> Enjoyment	.07	.51
Coach Passive/Avoidant --> Intrinsic Motivation	.08	.55

Note: t values > |1.96| are significant ($p < .05$).

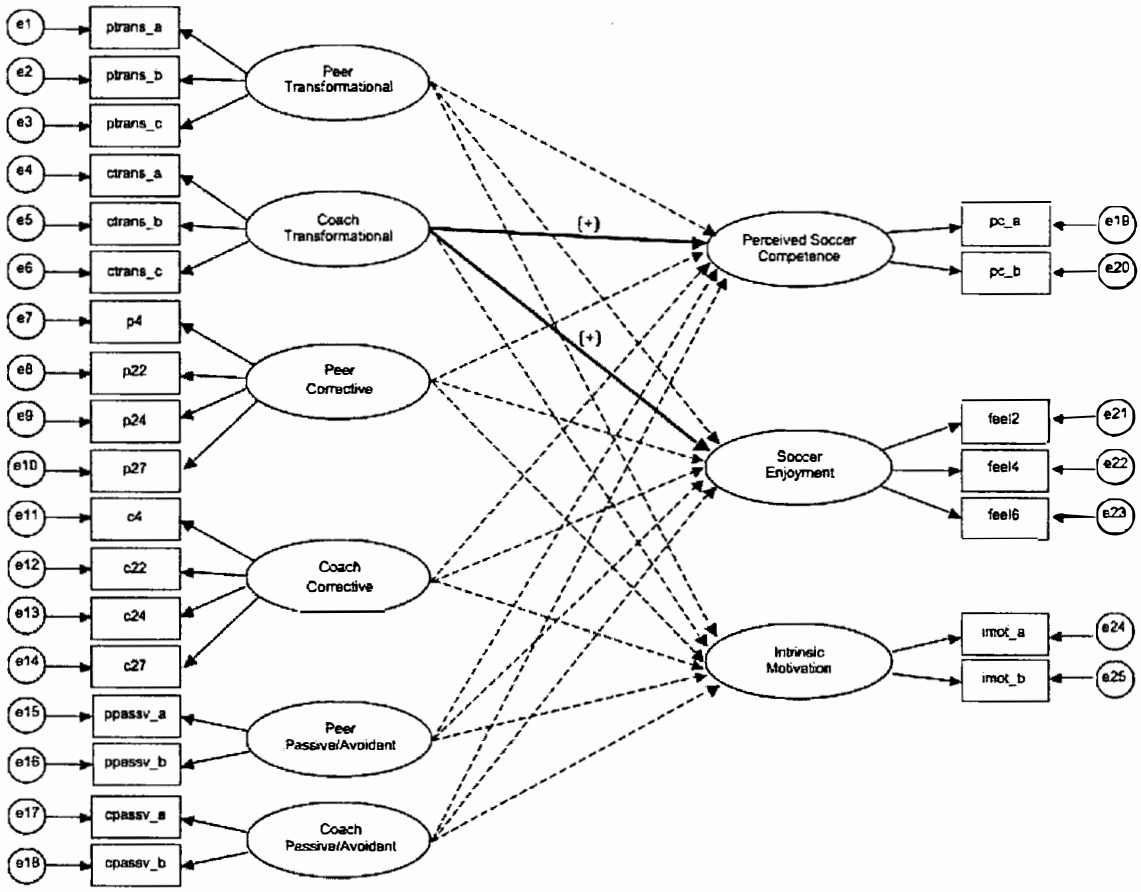

Figure 21. Final Model for Combined Leadership with Individual Outcomes
Note: Solid lines represent significant paths; dashed lines denote non-significant paths. Correlations among leadership factors and among outcome variables were estimated.

Team outcomes. The next model explored the joint influence of peer and coach leadership behaviors in relation to task and social cohesion and collective efficacy. The specified model demonstrated a reasonable fit to the data, χ^2 (216) = 452, $p < .05$, NNFI = .96, CFI = .97, GFI = .92, and RMSEA = .050 (90% *CI* = .043 – .057). Modification indices did not reveal any theoretically justified changes. Table 43 provides factor loadings and uniquenesses for the measurement model.

Table 43

Completely Standardized Factor Loadings for Peer and Coach Leadership with Team Outcomes (N = 412)

Parcel/Item	Factor Loading	Uniqueness
Peer Transformational Leadership		
ptrans_a	.86*	.25
ptrans_b	.88	.23
ptrans_c	.88	.22
Coach Transformational Leadership		
ctrans_a	.89*	.21
ctrans_b	.89	.21
ctrans_c	.88	.23
Peer Corrective Leadership		
p4	.66*	.57
p22	.53	.72
p24	.67	.56
p27	.73	.47
Coach Corrective Leadership		
c4	.71*	.50
c22	.62	.62
c24	.69	.52
c27	.66	.56
Peer Passive/Avoidant Leadership		
ppassv_a	.72*	.49
ppassv_b	.75	.44
Coach Passive/Avoidant Leadership		
cpassv_a	.83*	.31
cpassv_b	.81	.34
Task Cohesion		
task_a	.82*	.33
task_b	.77	.41
Social Cohesion		
social_a	.86*	.26
social_b	.76	.43
Collective Efficacy		
ce_a	.87*	.24
ce_b	.98	.04

Note: * Denotes parameter estimates fixed to 1. All loadings were significant, $t > |1.96|$.

The structural model revealed several significant paths. Peer transformational leadership was positively related to task and social cohesion, and coach transformational leadership was positively related to task cohesion and collective efficacy (see Table 44 and Figure 22). Peer leaders and coaches who were rated as inspiring, motivating, interpersonally supportive, and contingently rewarding were associated with athletes who viewed their teams as working well together to accomplish tasks. Also, peer leaders who were perceived as using more frequent transformational leadership behaviors were associated with athletes who viewed their teams as being unified and harmonious. Finally, athletes' perceptions of more frequent coach transformational leadership behaviors were related to teams being confident and prepared for future team performances. Taken together, results suggest that peer and coach leadership behaviors work in combination to influence team outcomes such as to goal attainment, preparation, and unity. The model explained 26.0%, 10.1%, and 13.8% of the variance in task cohesion, social cohesion, and collective efficacy, respectively.

Table 44

Path Coefficients for Peer and Coach Leadership on Team Outcomes (N = 412)

Path	Path Coefficient	*t* value
Peer Transformational → Task Cohesion	.21	2.06
Peer Transformational → Social Cohesion	.28	2.62
Peer Transformational → Collective Efficacy	.17	1.86
Coach Transformational → Task Cohesion	.31	3.53
Coach Transformational → Social Cohesion	.06	.65
Coach Transformational → Collective Efficacy	.25	3.07
Peer Corrective → Task Cohesion	-.13	-.80
Peer Corrective → Social Cohesion	-.13	-.74
Peer Corrective → Collective Efficacy	-.12	-.80
Coach Corrective → Task Cohesion	-.09	-.64
Coach Corrective → Social Cohesion	.02	.14
Coach Corrective → Collective Efficacy	-.04	-.29
Peer Passive/Avoidant → Task Cohesion	-.14	-.85
Peer Passive/Avoidant → Social Cohesion	.05	.31
Peer Passive/Avoidant → Collective Efficacy	-.04	-.24
Coach Passive/Avoidant → Task Cohesion	.03	.23
Coach Passive/Avoidant → Social Cohesion	-.12	-.80
Coach Passive/Avoidant → Collective Efficacy	.04	.27

Note: t values > |1.96| are significant ($p < .05$).

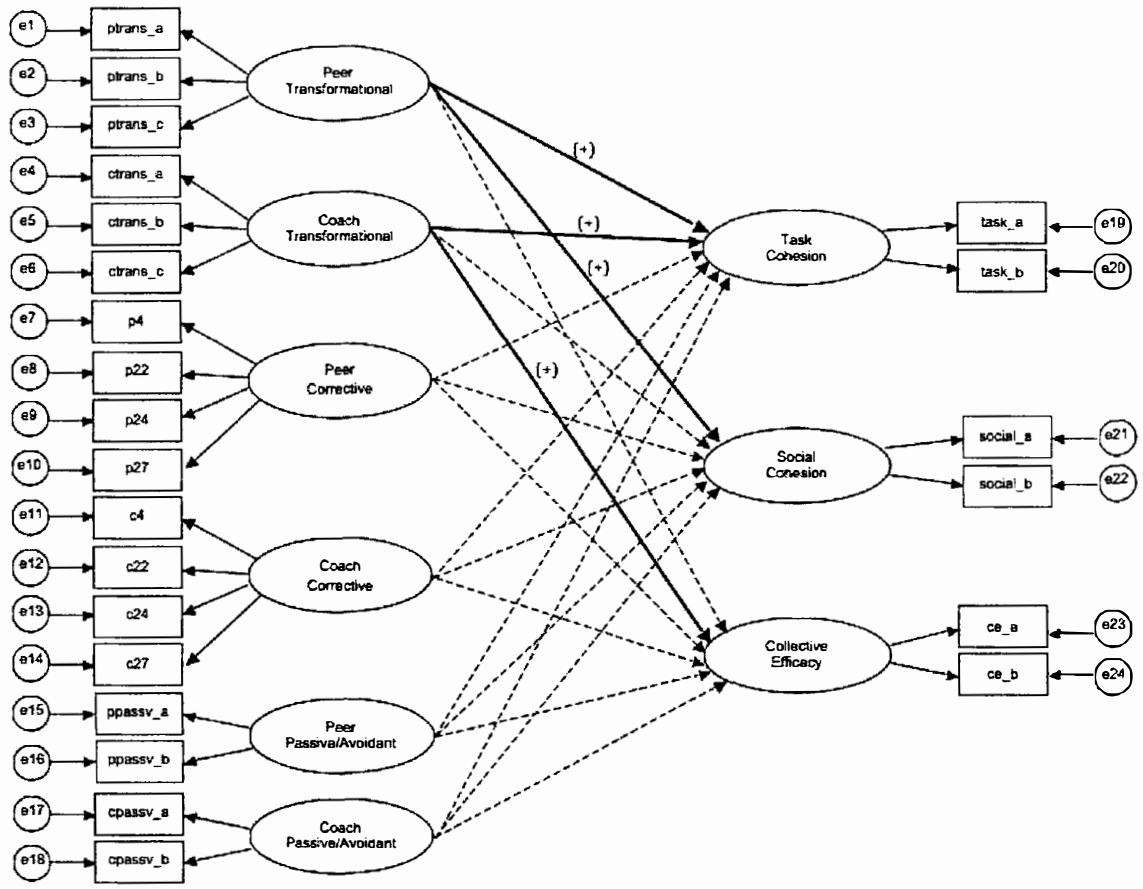

Figure 22. Final Model for Combined Leadership with Team Outcomes
Note: Solid lines represent significant paths; dashed lines denote non-significant paths. Correlations among leadership factors and among outcome variables were estimated.

Discussion

Study 2 sought to examine the unique and combined influence of coach and peer leadership on individual and team outcomes based on transformational leadership theory. One purpose was to determine the validity of the MLQ-5X in sport, while remaining purposes investigated relationships among peer and coach leadership with athletes' enjoyment, perceived competence, intrinsic motivation, task cohesion, social cohesion,

and collective efficacy. In the following paragraphs, I summarize key findings from these analyses.

First, the MLQ-5X has revealed several different factor structures in past research, including three- or six-factor models (see Antonakis, Avolio, & Sivasubramaniam, 2003; Bass & Avolio, 2004; Garman, Davis-Lenane, & Corrigan, 2003). Recall the three-factor model that emerged as a good fit in this study included *transformational, corrective,* and *passive/avoidant* leadership styles. This makes conceptual sense because behaviors such as idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, and contingent reward are positive forms of leadership and clustered logically as *transformational* in nature. Management-by-exception active behaviors mainly focus on dealing with problems as they arise and pointing out mistakes. Thus, these behaviors stood alone as *corrective* in nature. Finally, management-by-exception passive and laissez-faire behaviors could logically be combined into a *passive/avoidant* factor based on the pattern of correlations suggesting that they focus on avoiding problems or making decisions. This 3-factor structure of the MLQ-5X was the best representation of the data for the study sample. Because the MLQ-5X has been used sparingly in sport research, future studies should continue to provide further validity for the factor structure found with the current sample.

A second purpose of the present study was to examine the unique influence of peer leadership on individual and team outcomes. Peer transformational leadership behaviors were positively related to athletes' enjoyment, intrinsic motivation, task and social cohesion, and collective efficacy, while peer corrective and passive/avoidant leadership behaviors were negatively related to task cohesion. Thus, selected peer leaders

who were seen as more inspirational, motivational, and willing to deal with problems as they arise, and less concerned with mistakes, were associated with athletes who reported more fun playing soccer and greater curiosity for learning new skills. Also, these same leadership behaviors were related to athletes' beliefs that their teams were harmonious, united in their effort to achieve goals, and confident about success in future performances. These findings demonstrate that peer leaders who use more frequent positive (i.e., transformational) and less frequent negative (i.e., corrective, passive/avoidant) behaviors can foster a variety of favorable individual and team outcomes.

The third purpose was to examine the unique influence of coach leadership on individual and team outcomes. Coach transformational leadership behaviors were positively associated with perceived soccer competence, enjoyment, intrinsic motivation, task and social cohesion, and collective efficacy, while corrective behaviors were negatively related to all the same outcomes except for social cohesion. Thus, athletes who perceived their coaches as more frequently inspiring athletes and recognizing their individual contributions to the team, and less frequently directing attention to failures to meet standards reported greater feelings of joy playing soccer, felt more confident in their soccer ability, were more likely to try difficult soccer skills and viewed their teams as united toward achieving goals, close-knit, and confident about their preparation, effort, and persistence in upcoming competitions. Collectively, results for the unique influence of coach leadership demonstrated that more frequent transformational and less frequent corrective behaviors were associated with more positive athlete outcomes.

The final purpose was to explore the combined influence of peer and coach leadership on individual and team outcomes. In the combined model investigating relationships with individual outcomes, only coach transformational behaviors were significantly related with athletes' perceived competence and enjoyment. Thus, when examined together, only coaches who were seen as talking optimistically about the future, emphasizing a collective sense of mission, and seeking differing perspectives when solving problems were related to athletes who felt they were better than others their age at soccer and found joy in playing soccer. Peer leadership behaviors did not emerge as significant contributors to individual outcomes. Therefore, coach leadership behaviors overshadowed those of athlete leaders for fostering positive affective responses and soccer competence among female adolescent soccer players.

By contrast, peer transformational behaviors were positively related to task and social cohesion, alongside the influence of coach transformational behaviors on task cohesion and collective efficacy. This means that athlete leaders and coaches who were viewed by team members as going beyond self-interest for the good for the group, talking enthusiastically about what needs to be accomplished, and treating players as individuals were associated with athletes who saw their teams as communicating and working well together, supporting each other, and having the ability to outplay their opponents in future competitions. In sum, coach leadership behaviors were more influential than peer leadership behaviors for positively influencing individual outcomes, but both peer and coach leadership behaviors were equally important for team outcomes.

Results for peer leadership extend Study 1 in several ways. First, when examined on their own, peer leadership behaviors were associated with task and social cohesion and

collective efficacy, whereas in Study 1 only social cohesion was significantly associated with peer leadership. This different pattern of results may have emerged based on the measures used. Study 1 assessed peer leadership using the SLBI and PSLBI, while Study 2 used the MLQ-5X. Likewise, participants in Study 1 were asked to rate all teammates on peer leadership behaviors, while participants in Study 2 were asked to select only one teammate when answering questions about peer leadership behaviors. Therefore, differences in measures and protocol for assessing peer leadership behaviors may account for variations in team outcomes across studies.

Second, Study 2 added to the results of Study 1 by demonstrating that, besides task and social cohesion and collective efficacy, peer leadership behaviors contribute to athletes' perceptions of their soccer abilities, level of soccer enjoyment, and intrinsic motivation. These results broaden peer leadership effectiveness beyond group dynamics. Third, Study 2 extended Study 1 by investigating coach and peer leadership behaviors together in relation to individual and team outcomes. When examined concurrently with coaches, peer leaders emerged as less influential for athletes' individual outcomes. However, this was not the case for team outcomes where the blend of coach and peer transformational leadership behaviors was associated with athletes' perceptions of task and social cohesion and collective efficacy. Thus, Study 2 extended Study 1 findings by demonstrating that peer leaders and coaches contribute uniquely to athlete outcomes and should work together to bring about positive change in individual and team variables.

In summary, results from Study 2 highlighted the nature of peer and coach leadership in sport using transformational leadership theory. Based on study results, it is essential that coaches and team leaders understand how their motivational and inspiring

behaviors can be used to foster positive outcomes. Likewise, this study demonstrated that in the company of coach leadership, peer leadership behaviors were less influential for individual outcomes, while being mutually important for team outcomes. Therefore, this study illustrated that leadership should consider both team members and coaches to understand athletes' experiences as individuals and as a team.

CHAPTER IV

INTEGRATED DISCUSSION OF STUDY 1 AND STUDY 2

The overall purpose of the present studies was to examine peer and coach leadership effectiveness using transformational leadership theory as a framework (Bass, 1985; Bass & Avolio, 1994). Study 1 investigated relationships among peer leader characteristics and behaviors with team outcomes of cohesion and collective efficacy. Study 2 delved further by examining the unique and combined influence of peer and coach leadership on individual and team outcomes. Together, these studies sought to expand our understanding of peer and coach leadership effectiveness in sport. In this chapter, results from Study 1 and Study 2 are integrated and explored in depth as they relate to transformational theory and previous research on leadership in sport. I also address practical implications of the results, study limitations, and future directions for the study of coach and peer leadership in sport.

Transformational leadership theory (Bass, 1985) provided a platform from which to explore study purposes for several reasons. First, transformational leaders possess personal characteristics such as confidence, initiative, and prosocial skills (Bass & Riggio, 2006). These qualities are similar to those found to be associated with peer leaders in sport (e.g., competence, peer acceptance) (Glenn, 2003; Glenn & Horn, 1993; Moran & Weiss, 2006). Second, transformational leaders convey strong values and ideals through leading by example, expressing optimism about future goals, encouraging

problem-solving among team members, providing feedback for performance, making decisions, and recognizing team members' individual contributions to the group (Bass, 2008). Behaviors such as these are indicative of peer leaders and coaches in sport (see Glenn, 2003; Horn, 2008). Third, in response to these behaviors, followers experience greater self-confidence, motivation, pleasure, and group unity and confidence (Bass & Riggio, 2006). Therefore, applying transformational theory to the sport setting was relevant for investigating peer and coach leadership. Likewise, according to Bass (1997), transformational leadership has been established as a valid theory across a wide range of contexts, including sport. Based on the possible psychosocial outcomes of sport participation (e.g., confidence, teamwork, enjoyment) and the effects of transformational leadership on followers' motivation and other outcomes, transformational theory principles are valuable for broadening the scope of peer and coach leadership effectiveness in sport.

Results from Study 1 demonstrated significant relationships between peer leader characteristics and behaviors and between peer leader behaviors and team outcomes. Female adolescent soccer players who reported higher soccer competence, peer acceptance, intrinsic motivation, and behavioral conduct were rated by their teammates and saw themselves as engaging in more frequent leadership behaviors. These findings provide support for transformational leadership theory. According to Bass (2008), transformational leaders have similar personal qualities to those found in Study 1. Specifically, individuals who exhibit transformational behaviors are characterized as being competent and motivated, willing to develop positive social interactions, and possessing the capacity to engage in prosocial behaviors. Thus, peer leaders in Study 1

who felt they were skilled at soccer, liked by others, preferred challenging tasks to easy ones, and felt good about the way they act paralleled personal characteristics indicative of transformational leaders.

Moreover, Study 1 findings demonstrated that athletes who rated themselves higher in peer leadership behaviors reported greater task and social cohesion and collective efficacy, and those rated higher by teammates on instrumental and prosocial behaviors reported greater social cohesion. These findings also provide support for transformational leadership theory. That is, transformational leadership behaviors have been found to influence group outcomes such as unity, trust, cooperation, and confidence (see Bass & Riggio, 2006), which are similar to team cohesion and collective efficacy in this study. Collectively, findings from Study 1 provide support for transformational leadership in sport by highlighting the relationships among personal characteristics, peer leaders behaviors, and team outcomes.

Study 2 extended Study 1 and past research by examining the unique and combined influence of peer and coach leadership on individual and team outcomes. First, the measure of leadership behaviors—the MLQ-5X—was best represented by three factors—*transformational, corrective,* and *passive/avoidant* leadership behaviors. Second, peer leaders higher in transformational behaviors and lower in corrective and passive/avoidant behaviors were related to athletes who reported greater enjoyment, intrinsic motivation, and team outcomes; coaches higher in transformational and lower in corrective behaviors were related to athletes reporting greater enjoyment, perceived competence, intrinsic motivation, cohesion, and collective efficacy. When examined in combination, peer transformational behaviors were positively associated with task and

social cohesion, while coach transformational behaviors were positively related to perceived competence, enjoyment, task cohesion, and collective efficacy. Thus, a different pattern of relationships emerged for the combined influence of coach and peer transformational leadership behaviors on individual and team outcomes. Peer leadership behaviors were overshadowed by coach leadership behaviors in relation to individual outcomes, while both peer and coach transformational behaviors were important contributors to team outcomes.

Third, Study 2 findings extend previous research by using transformational leadership theory in a sport context to investigate peer and coach leadership. Other studies have compared coach and peer leadership behaviors or examined the joint influence of their behaviors using the LSS, a measure of coach leadership focused on motivational outcomes in athletes (e.g., Glenn, 2003; Loughead & Hardy, 2005). While these studies showed that coach and peer leader behaviors are important for team members' experiences, it is questionable whether a measure developed and validated to assess coach leadership can appropriately represent an assessment of peer leadership behaviors. Study 2 was designed to contend with this issue by using the MLQ-5X as a measure of peer *and* coach leadership behaviors. Bass and Avolio (2004) stated that the MLQ-5X can be used in a variety of contexts and at multiple levels of a team or organization to assess leadership behaviors, thus making it an acceptable measure of peer and coach leadership behaviors in sport. Results not only support transformational theory, they also shed light on to how peer leaders and coaches work in tandem to influence individual and team outcomes.

The present studies extend the knowledge base on peer and coach leadership in sport in at least four ways. First, instrumental, prosocial, and transformational peer leadership behaviors were related to a variety of cognitive, affective, and behavioral responses for female athletes. Study results for the relationship between peer leadership behaviors and team outcomes support Glenn's (2003) finding that peer leadership behaviors were positively related to task cohesion, social cohesion, and collective efficacy, and Moran's (2003) finding for social cohesion with girls. Findings from the present studies suggest a similar pattern of results in that adolescent female soccer players valued peer leaders' motivational, social, and task-oriented behaviors for establishing feelings of team harmony, goal attainment, and confidence. Relationships among peer leadership behaviors and individual outcomes in Study 2 also extend previous research. For example, Zacharatos et al. (2000) found that peer transformational behaviors were positively related to athlete satisfaction and effort. Study 2 went beyond effort and satisfaction by including psychosocial variables of perceived competence, enjoyment, and intrinsic motivation. By broadening outcomes to encompass cognitive, affective, and behavioral responses, this study demonstrated that transformational leadership theory is a viable means for exploring peer leadership effectiveness in sport across a variety of outcomes.

Second, Study 2 expanded an understanding of coach leadership behaviors within transformational leadership theory. Few studies have used transformational leadership theory for investigating coach leadership effectiveness. Charbonneau et al. (2001) found that transformational coaching behaviors positively influenced intrinsic motivation, while other researchers found a positive relationship between coach transformational leadership

behaviors and athlete effort (Rowold, 2006). Results for Study 2 extend previous research in that coach transformational and corrective behaviors were related to other individual differences such as athletes' perceived competence and enjoyment. Results from Study 2 also provide further evidence for coach leadership effectiveness in relation to team outcomes. Previous research has shown that democratic decision-making style, positive feedback, social support, and mental preparation are related to higher levels team cohesion, collective efficacy, and satisfaction (e.g., Gardner et al., 1996; Trail, 2004; Turman, 2003; Westre & Weiss, 1991). The present investigation illustrated that transformational and corrective coaching behaviors are related to team confidence, unity, and goal attainment in theoretically consistent ways—positive relationships with transformational and negative relationships with corrective behaviors. Horn (2008) and Chelladurai (2007) encouraged further investigation of transformational leadership in sport because of the theory's multidimensional behaviors and motivational components. Study 2 answered that call and contributed to the literature on coach leadership effectiveness in sport.

Third, only a few studies to date have examined the concurrent influence of coach and peer leadership behaviors (e.g., Glenn, 2003; Kozub & Pease, 2001; Wildman, 2006). Only Glenn investigated relationships of peer and coach leadership behaviors with team outcomes, but she did not investigate individual outcomes within her model. Study 2 extends previous research by demonstrating that the *joint* influence of peer and coach transformational behaviors was related to individual and team outcomes. Findings for the combined influence of peer and coach leadership with team outcomes supports research by Glenn who found that peer leaders and coaches who exhibited more frequent training

and instruction, social support, and positive feedback were associated with athletes' who reported higher team cohesion and collective efficacy. In the present study, the combined influence of peer and coach transformational leadership behaviors was associated with athletes who saw their teams as close-knit, efficient at achieving goals, and confident about future success. This finding also extends Study 1 by demonstrating that coach leadership behaviors in conjunction with peer leadership behaviors were related to task cohesion and collective efficacy. Recall Study 1 findings that teammate ratings of peer leadership were associated with social cohesion only and it was suggested that the some of the unexplained variance in team outcomes may be associated with coach leadership behaviors. Study 2 provides support for coach leadership behaviors being a valuable piece of the puzzle for understanding team outcomes.

Fourth, in addition to team outcomes, Study 2 went a step further to demonstrate that when examined alongside coach leadership, peer leadership behaviors were not related to individual outcomes. To date, no known research has investigated these relationships. Thus, this finding extends previous research by illustrating that peer leadership behaviors were eclipsed by coach leadership behaviors relative to team members' perceptions of their soccer abilities, feelings of pleasure associated with playing soccer, and preferences for challenging tasks as opposed to easy ones.

Looking at models including coach and peer leadership, coaching behaviors were associated with individual (perceived competence and enjoyment) and team outcomes (task cohesion and collective efficacy), whereas peer leadership behaviors were associated with team cohesion only (task and social). This finding suggests that team members may look to coaches for information related to ability judgments, future team

success and goal attainment, and feelings of joy associated with playing soccer, while they look to peer leaders for guidance toward achieving group-oriented instrumental and social goals. In other words, team members may look to coaches and peer leaders for different types of information or behaviors. Perhaps because coaches are older and occupy a prescribed leadership role as compared to a similar aged peer leader, team members value certain coaching behaviors in comparison to peer leader behaviors. Future research is needed to understand the synergy of coach and peer leadership behaviors relative to athlete outcomes.

Team members rated coach and peer leaders very positively. Scores for peer and coach transformational leadership behaviors were relatively high ($M = 2.71$ and 3.20, respectively, on a scale of 0 to 4), while peer corrective and peer and coach passive/avoidant leadership behaviors were relatively low ($M = 1.05 - 1.18$). Ratings for coach corrective leadership behaviors were just above the midpoint ($M = 2.18$). Likewise, means for coach transformational and corrective leadership behaviors were higher than peer transformational and corrective leadership behaviors. Perhaps one explanation for these positive perceptions is that 92% of coaches had received some degree of formal coach leadership training, in which they were taught skills associated with providing effective feedback and reinforcement, motivational strategies, and instruction and guidance. Recall that coaches participated in national licensing programs and on average had over 13 years of experience. By contrast, peer leaders were not likely exposed to formal training programs and therefore may not bring the same experience to the team as coaches. This notion may help explain why in the presence of coach leadership, peer leadership behaviors were not associated with individual outcomes. It is

possible that training programs better prepared coaches to provide leadership behaviors that were important for athletes' enjoyment, perceived competence, and motivation.

In sum, both studies provide support for using transformational theory as a framework for understanding leadership effectiveness in sport. Results demonstrated that peer leaders possess certain personal qualities that relate to their behaviors and peer leadership behaviors were associated with a variety of athlete and team outcomes. Additionally, results revealed that transformational leadership theory can be applied to both athletes and coaches as leaders on sport teams. Considering the joint influence of peer and coach leadership behaviors was insightful as to their relative and unique contributions to athletes' reported team experiences.

Theoretical Implications

Overall, the present studies provide partial support for transformational leadership theory (Bass, 1985). First, In Study 1 it was hypothesized that higher ratings of peer leadership effectiveness would be related to higher levels of personal characteristics such as confidence, character, initiative, and care and concern for others. According to theory, transformational leaders are willing to take risks, demonstrate a high degree of moral conduct, and are well-regarded by followers (Bass & Riggio, 2006). Results supported the tenets of transformational leadership theory in that peer leaders were rated as being confident in their soccer abilities, wanting to do the right thing, taking initiative to learn new skills, and developing positive social relationships.

Second, the instrumental and prosocial leadership behaviors that emerged in Study 1 are compatible with transformational leadership theory (Bass, 1985). Examples

of instrumental and prosocial behaviors included being organized, positive, responsible, creative, compassionate, motivational, and honest. These behaviors parallel the notion of the 4I's (i.e., idealized influence, inspirational motivation, individualized consideration, intellectual stimulation) that focus on behaviors such as care and concern, problem-solving, inspiration, and respect. Peer leaders were viewed by their teammates and saw themselves as leading by example, being optimistic about what the team can accomplish, helping teammates problem solve, and acknowledging teammates' individual contributions to group success. These results are congruent with transformational theory because peer leadership effectiveness was exemplified by task- and social-oriented behaviors, which are indicative of transformational leadership behaviors (Bass, 2008).

Third, results from Study 2 did not support the hypothesized 8-factor model of the MLQ-5X. Bass and colleagues (Antonakis et al., 2003; Bass, 2008; Bass & Avolio, 2004) stated that the full range of leadership behaviors (i.e., 4I's, contingent reward, management-by-exception active, management-by-exception passive, laissez-faire) was the most distinct and descriptive means of applying transformational leadership theory to various settings. However, they also discussed other possible factor solutions including a similar 3-factor solution like the one found in the present study. While the 8-factor solution is considered ideal for distinguishing the range of leadership behaviors, the 3-factor solution adequately represented the tenets of transformational leadership theory with the sample in the present study. Further research using the MLQ-5X with various sport samples should continue to explore factorial validity.

Because the 8-factor model was not supported, hypotheses related to transformational, transactional, and laissez-faire leadership behaviors need to be

discussed within the three leadership behaviors that emerged (i.e., transformational, corrective, and passive/avoidant leadership). Results are consistent with transformational leadership theory because peer and coach transformational leadership behaviors were positively related to perceived competence, intrinsic motivation, enjoyment, and team cohesion and confidence. Transformational leaders are thought to enhance individuals' self-confidence, effort, and empowerment, and teams' unity, cooperation, and confidence (Bass, 2008; Bass & Riggio, 2006). Thus, in line with transformational leadership theory, coaches and peer leaders who used the 4I's and contingent rewarding behaviors were associated with positive individual and team outcomes.

Transformational leadership theory states that management-by-exception active behaviors can be positively or negatively related to followers' outcomes depending on their interpretations (Bass, 2008). Specifically, followers may interpret management-by-exception active behaviors as positive if they feel the leader is protecting them from mistakes that may result in injury, or they may interpret such behaviors as negative if they feel the leader is criticizing or disapproving of their actions (Bass, 2008). Study 2 results show that peer and coach corrective behaviors (i.e., management-by-exception active) were negatively related to individual and team outcomes, meaning that study participants construed items such as "focuses attention on irregularities, mistakes, exceptions, and deviations from standards", "keeps track of all mistakes", and "directs attention toward failures to meet standards" as undesirable leadership behaviors. Team members may have perceived these items as punitive behaviors, thus explaining the negative relationships. Likewise, these items did not contain information on how to improve performance. These results can be compared to Horn (1985), who found that

greater coach criticism was positively related to athletes' psychosocial outcomes. She explained this finding by pointing out that the coach's criticism contained information on how to correct performance, which may have positively influenced athletes' perceived competence. In the present study, however, corrective feedback did not contain information, so peer leaders and coaches who were rated as frequently engaging in corrective behaviors may have been seen as punishing, disapproving, or criticizing team members, explaining lower levels of soccer competence, enjoyment, motivation, task cohesion, and collective efficacy.

Other relationships specified within the transformational model were not supported. Peer transformational behaviors were not significantly related to perceived competence. Perhaps team members do not use peer leaders as sources of competence information, but instead they use personal improvement and coach feedback to determine how good they think they are at soccer. Previous research shows that female adolescent athletes use feedback from coaches and internal standards (e.g., effort, improvement) to judge competence (e.g., Horn, 1985; Horn, Glenn, & Wentzell, 1993; see Horn & Harris, 2002). In the present study, coach transformational leadership behaviors were significantly related to perceived competence in both the unique and combined models. Thus, coach leadership behaviors rather than peers may have determined team members' perceptions of their soccer skill. Peer corrective and passive/avoidant behaviors were unrelated to individual outcomes. This finding is likely due to the nature of these behaviors. For example, peer corrective behaviors refer to pointing out mistakes, while peer passive/avoidant behaviors refer to not dealing with problems and avoiding making decisions. On adolescent soccer teams, it is likely that coaches fulfill roles associated

with decision making and disciplinary action. Therefore, in the sport context, it is not surprising that peer corrective and passive/avoidant leadership behaviors were unrelated to perceived competence, enjoyment, and intrinsic motivation.

Finally, coach passive/avoidant leadership behaviors did not emerge as a significant contributor to variations in individual or team outcomes. This does not support transformational leadership theory because leaders are thought to exhibit the full range of behaviors and these behaviors are likely to relate to a number of individual and group outcomes (Bass, 2008). The mean for coach passive/avoidant leadership was low ($M = 0.92$, scale 0 – 4), so athletes rated their coaches as engaging in these behaviors once in a while to almost never. Thus, coaches were not seen as avoiding problems or making decisions.

Overall, results provide partial support for transformational leadership theory as a means of explaining relationships among peer and coach leadership and athlete outcomes. Transformational, corrective, and passive/avoidant leadership dimensions contributed to understanding peer and coach leadership effectiveness in sport. Further research is needed to develop a greater understanding of how transformational leadership applies to sport settings.

Practical Implications

The robust findings from the present studies suggest that coaches and educators might improve leadership effectiveness in several ways. First, coaches should be aware that athletes value numerous characteristics other than skill level as evidence of team leadership. Previous research showed that teammates and coaches rated skill level as the

most important index of peer leadership (e.g., Glenn & Horn, 1993; Moran & Weiss, 2006). Results from Study 1 revealed that peer leaders were intrinsically motivated, high in behavioral conduct, felt confident about their soccer ability, and liked by their teammates. Thus, it would be beneficial for coaches to look beyond their most skilled players for team leadership. For example, coaches should provide opportunities for all team members to demonstrate leadership behaviors if they so desire. Some examples include appointing players to oversee portions of practice, direct team meetings, and facilitate team-building activities.

Second, it is important for coaches to understand that peer leadership may make a strong impact on teammates' intrinsic motivation, feelings of enjoyment, and team cohesion and confidence. Coaches can foster positive individual and team outcomes by cultivating an environment where peer leaders learn to motivate and inspire their teammates. For instance, training sessions should be designed around cooperation and teamwork where athletes are appointed to guide the team to achieve tasks. This type of environment will provide peer leaders with opportunities to make decisions, problem solve, motivate, and foster team members' contributions to group success. These *transformational* peer leadership behaviors will likely result in more positive athlete outcomes.

Third, coaches can consider both formal and informal leadership roles of their athletes. In the present studies, athletes identified captains and non-captains as leaders. Coaches can encourage leadership roles among numerous team members, not just captains. Examples include assigning non-captains to call plays, lead small groups within practices, oversee film sessions, and organize social activities. By delegating leadership

roles to a variety of team members, coaches can offer all athletes practice exhibiting leadership behaviors. These experiences may encourage team members to transfer similar leadership behaviors to other domains (e.g., school, career).

Fourth, study findings can be used in coaching education workshops on team dynamics and leadership. Based on study findings, coaches would benefit from being educated on how transformational and corrective behaviors influence athletes' ability perceptions, enjoyment, motivation, and group cooperation, unity, and confidence. For example, coaches should be encouraged to use more frequent transformational behavior and less frequent corrective behaviors. Curricula incorporating educational components based on transformational leadership theory would provide coaches with a sound framework to encourage leadership development and effectiveness.

Fifth, coaches need to be aware that team members may seek differing leadership behaviors from peer leaders and coaches. Recall that in the combined models, coaching behaviors were related to individual and team outcomes, while peer leadership behaviors were associated with team cohesion only. Therefore, it's possible that athletes will expect their coaches to inspire them and enhance feelings of enjoyment, motivation, confidence, and team efficacy and goal attainment. However, they will look to their teammates for behaviors that enhance feelings of team unity and cooperation. Thus, coaches should recognize that positive athlete outcomes are related to both coaches' and teammates' leadership behaviors.

Finally, athletes are likely to look to their coaches and peers as role models and may strive to emulate their behaviors. Results from the present studies demonstrate that peer and coach transformational leadership behaviors were positively related to numerous

athlete outcomes. Thus, coaches and peer leaders need to be aware of how their behaviors could be seen by team members and make every effort to display behaviors they would want athletes to emulate. For example, talking optimistically or suggesting new ways to look at problems are actions other team members could replicate. By doing so, these team members are then engaging in positive forms of leadership that may enhance team outcomes.

Future Research Directions

While the results from these studies provide added insight into peer and coach leadership in sport, future research is needed to extend the knowledge base about how coaches and peer leaders influence athlete and team outcomes. First, transformational leadership theory can be used to understand peer and coach leadership effectiveness across a variety of sport settings. For example, soccer does not have timeouts, forcing athletes to make decisions on the field without the help of the coach. By contrast, basketball, football, baseball, and softball have timeouts and stoppages where coaches take charge, call plays, make corrections, and regain control of the team. It would be beneficial to explore peer and coach transformational leadership behaviors in these different sport contexts. In her model of coaching effectiveness, Horn (2002, 2008) includes situational factors such as sport type as antecedents of coach behaviors and athletes' perceptions of their coaches' behaviors. Therefore, future research might include other types of sport teams or compare sport types within the same study to uncover the impact of sport-specific variables on peer and coach transformational leadership effectiveness in sport.

Second, developmental issues should be considered when studying transformational leadership behaviors in sport. Competitive, adolescent female soccer players were chosen in the present set of studies because they value relationships with coaches and peers (e.g., Amorose & Anderson-Butcher, 2007; Horn, 2008; Weiss et al., 1996). These relationships are particularly important during adolescence. However, for younger or older female and male athletes at the same or different competitive levels, varying importance may be placed on relationships with coaches and peers, and leadership behaviors might relate differently to individual and team outcomes (Horn, 2008; Weiss & Stuntz, 2004). Bass and Riggio (2006) stated that transformational leadership theory is applicable across age groups. Thus, future studies should consider examining the viability of transformational leadership theory with younger, college-age, and older elite athletes.

Third, longitudinal designs would allow an assessment of changes in leadership and team outcomes over the course of the season. Bass (2008) contended that the future of leadership research would benefit from multiple measurement points to more accurately describe relationships between leadership behaviors and follower outcomes. In the current studies, questionnaires were collected at mid-season. It is possible that variations in the frequency of peer and coach leadership behaviors would occur as teams experience wins and losses, injuries, illness, personnel problems, and mental and emotional fatigue. In addition, variability in leadership behaviors may account for differences in athlete outcomes. Future studies might benefit from multiple assessments of leadership behaviors and athlete outcomes during the season, yet collecting data at multiple time points is a challenge in the real world of athletics. However, such efforts

are needed to provide a more comprehensive portrayal of leadership effectiveness in sport.

Fourth, other variables alongside coaching behaviors may contribute to a fuller understanding of athlete outcomes. In the present studies, peer and coach leadership behaviors explained 1.0 – 26.0% of the variance in individual and team outcomes. Thus, a substantial amount of variance was left unexplained. Several constructs may be viable candidates for inclusion. One such variable is motivational climate. Motivational climate refers to how coaches structure practices and competitive environments, and consequently how team members perceive what is valued, rewarded, and evaluated within the sport environment (Ames, 1992). In a mastery motivational climate, athletes perceive their coach defines success as improvement, learning, and effort, and each team member feels like an integral part of the team. In a performance motivational climate, athletes perceive coaches place an emphasis on favorable social comparison and winning, punishment for mistakes, and exclusive attention to the most talented athletes. Previous research has demonstrated that athletes' perceptions of the motivational climate are linked with how they interpret coach feedback (see Amorose, 2007; Horn, 2008). In a recent study, Weiss et al. (2009) found that variations in athlete outcomes were associated with how athletes construed coach feedback coupled with the motivational climate. Specifically, greater positive and informational coach feedback in response to successful performance attempts plus a greater emphasis placed on a mastery climate, and less emphasis placed on a performance climate, were related to greater perceived competence, enjoyment, and intrinsic motivation. Besides motivational climate, other variables that would be consistent with studying coach leadership such as feedback and

reinforcement and autonomy-supportive and controlling behaviors could also be considered (Amorose, 2007; Horn 2008).

Lastly, intervention studies are needed in which coaches are taught transformational leadership skills and effects on athlete outcomes are observed. Bass and Riggio (2006) stated that transformational leadership behaviors could be learned through workshops and seminars. Future research could incorporate pre- and post-intervention data to determine whether improvements in transformational leadership are related to changes in individual and team outcomes. Intervention research on coaches as sources of positive youth development has shown that coaches trained in using effective feedback patterns, engaging in autonomy-supportive behaviors, and creating a supportive learning climate were associated with young athletes who reported positive self-perceptions, enjoyment, lower anxiety, and intention to continue participating (Conroy & Coatsworth, 2006; Smith et al., 2007; Smoll et al., 1993). Future studies could adopt a similar experimental design for teaching coaches how to be effective transformational leaders to determine change in athlete outcomes.

Study Limitations

The present studies were based on purposeful samples, appropriate designs, and sound methodologies. Still, some study limitations are evident. First, both studies used female adolescent soccer players as sample participants. Thus, results cannot be generalized across sport type, gender, or age.

Second, in both studies participants were asked to rate teammates' leadership behaviors. While surveys were completed in a semi-private setting, it is possible that

teenage girls rated teammates' leadership behaviors higher than they might have using a different procedure. For example, in Study 1 scores on teammate-rated leadership were well above the mean and in Study 2 teammates rated peer leaders above the mean on transformational behaviors (e.g., the most desirable). Using other measurement modes such as observation and coding by trained researchers, or having participants complete questionnaires in complete privacy from their teammates, may reduce any potential social desirability in rating teammates' leadership abilities.

Third, in Study 2 it would have been impossible to have athletes rate *every* member of their team using the MLQ-5X (i.e., 36 items). Thus, participants were asked to think of someone who they considered to be a leader. Asking participants to only choose one teammate as their leader may have been difficult. In addition, greater variability in behaviors and relationships with outcome variables are possible with rating multiple leaders. To comprehensively assess leadership within teams using transformational leadership and the MLQ-5X, a shortened version of the measure is needed to allow for multiple leader selection and ratings.

Finally, measures such as the SLBI (Glenn & Horn, 1993) and PSLBI (Glenn, 2003) were used to compare findings to previous studies. However, in Study 2, coach leadership was added to examine the unique and combined influence of peer and coach leadership on athlete outcomes. Thus, a leadership measure was needed that could assess peer and coach leadership simultaneously. While other measures of coach leadership exist, no sport-specific measures were available to investigate the concurrent influence of peer and coach leadership behaviors in relation to athlete outcomes. While the MLQ-5X was a suitable option, and Bass and Avolio (2004) stated its flexibility across contexts,

the lack of a sport-specific measure may be a possible study limitation. Using a sport-specific measure or adapting the MLQ-5X to better reflect the sport context may add to our understanding of transformational leadership in sport.

Conclusion

Coaches and athlete leaders are prominent components of sport teams. Likewise, sport is a rich environment to examine characteristics of leaders, their behaviors, and the relationships among leader behaviors and athlete outcomes. The present set of studies support the use of transformational leadership theory in sport. Specifically, findings demonstrated that teammates and coaches have the potential to be powerful motivators and inspirational leaders who can influence athletes' psychological responses and team outcomes. Peer leaders and coaches can separately and jointly impact athletes' perceived competence, intrinsic motivation, enjoyment, and team cohesion and collective efficacy. Results from this set of studies demonstrate that peer and coach leadership effectiveness in sport is crucial for maximizing youths' positive experiences.

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APPENDIX A

Study 1: IRB Approval Letter and Consent Forms

UNIVERSITY of VIRGINIA

Office of the Vice President for
RESEARCH *and* GRADUATE STUDIES
Institutional Review Board for the Social and Behavioral Sciences

In reply, please refer to: Project # 2006-0309-00

October 9, 2006

Melissa Price
Maureen Weiss
Leadership, Foundations & Policy
PO Box 400267

Dear Melissa Price and Maureen Weiss:

The Institutional Review Board for the Behavioral Sciences has approved your research project entitled "Experiences on a Soccer Team." You may proceed with this study. Please use the enclosed Consent Form(s) as the master for copying forms for participants.

This project # 2006-0309-00 has been approved for the period October 9, 2006 to October 8, 2007. If the study continues beyond the approval period, you will need to submit a continuation request to the Review Board. If you make changes in the study, you will need to notify the Board of the changes.

Sincerely,

Tonya R. Moon, Ph.D.
Chair, Institutional Review Board for the Social and Behavioral Sciences

One Morton Dow, Suite 500, Room 15 Charlottesville, VA 22903
PO Box 400202 • Charlottesville, VA 22904-4202
Phone: 434-924-5999 • Fax: 434-924-1992
www.virginia.edu/vpgs-irb

Project Title: Experiences on a Soccer Team
Page 1 of 1

Parent/Guardian Informed Consent Agreement

Please read this consent agreement carefully before you decide to participate in the study. Your child will also receive an assent form; please review the assent form with your child.

Purpose of the research study: To better understand what girls are experiencing by playing on a soccer team, such as leadership, motivation, and team cohesion.

What your child will do in the study: Following a scheduled practice or team meeting, your child will complete a questionnaire about her experiences playing on a soccer team. Your child may skip any question that makes her feel uncomfortable and she can stop the survey at any time.

Time required: The study will require about 45 minutes of your child's time.

Risks: There are no anticipated risks in this study.

Benefits: There are no direct benefits to your child for participating in this research study. The study may help us understand what girls experience by playing on a soccer team.

Confidentiality: The information that your child gives in the study will be handled confidentially. Your child's information will be assigned a code number. The list connecting your child's name and this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your child's name will not be used in any report.

Voluntary participation: Your child's participation in the study is completely voluntary.

Right to withdraw from the study: Your child has the right to withdraw from the study at any time without penalty.

How to withdraw from the study: If your child wants to withdraw from the study, she needs to tell the researcher. There is no penalty for withdrawing. If you would like to withdraw after your child's materials have been submitted, please contact Melissa Price.

Payment: Your child will receive no payment for participating in the study.

If you have questions about the study, contact:
Melissa Price
Department of Leadership, Foundation, and Policy, PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434) 249-0948

Dr. Maureen Weiss
Department of Leadership, Foundation, and Policy, PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434) 924-7860

If you have questions about your rights in the study, contact:
Tonya R. Moon, Ph.D.,
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vprgs/irb
Agreement:
I agree to allow my child to participate in the research study described above.

Signature: _____ **Date:** _____
You will receive a copy of this form for your records.

IRB Project # 2006-0309

Revision Date: 09/01/06

Approved from 10/9/06 *to* 10/8/07

Minor Informed Assent Agreement 13-17

Please read this assent agreement with your parent(s) or guardian(s) before you decide to participate in the study. Your parent or guardian will also give permission to let you participate in the study.

We want to learn about your experiences on your soccer team.

As part of our study, we would like to ask you to answer some questions about your experiences on your soccer team. It will take you about 45 minutes to answer all the questions. If you find a question that makes you feel uncomfortable, you may skip that question. If you're not sure about a question or you don't understand it, please raise your hand and Melissa will help you.

We don't think that there are any risks to you in this study.

If you participate in this study, there won't be any benefit to you. This study will help us understand what girls experience by playing on a soccer team.

The information that you give to us during this study will be kept private. Your name will not be used, and the list linking the code number assigned to your name will be destroyed after all the data are collected. No one who reads about our study will know it was you. We keep things locked up so that only our researchers see them.

You don't have to participate in this study. Your coach will not know your answers and your playing time will not be affected by the study.

You can stop doing the study at any time.

If you want to stop doing the study, raise your hand and tell Melissa. If you choose to stop before we are finished, any answers you already gave will be destroyed. There is no penalty for stopping. If you decide that you don't want your materials in the study but you already turned them in, contact Melissa Price.

You won't receive any money if you do the study.

If you have questions about the study, contact:
Melissa Price
Department of Leadership, Foundation, and Policy, PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434) 924-6184

Dr. Maureen Weiss
Department of Leadership, Foundation, and Policy, PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434) 924-7860

If you have questions about your rights in the study, contact:
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Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vprgs/irb

Agreement:
I agree to allow my child to participate in the research study described above.

Signature: _____ **Date:** _____
You will receive a copy of this form for your records.

IRB Project # 2006-0309

Revision Date: 09/01/06

Approved from 10/9/06 *to* 10/8/07

APPENDIX B

Study 1: Coach and Parent Letters

October 20, 2006

Dear [Director of Coaching]:

My name is Melissa Price. I am the head coach of the U14 SOCA Express team in Charlottesville, VA and a graduate student in Sport and Exercise Psychology at the University of Virginia studying under the advisement of Dr. Maureen Weiss. For my PhD pre-dissertation project, I was hoping to collect data in the [club name]. This letter is to inform you about my project and to obtain approval to use participants in the your club.

As a coach, I am very interested in how team members function as leaders on their teams. The goal of my project is to understand *who* are team leaders, *what* they do, and *how* they influence team outcomes. Specifically, I am interested in characteristics of peer leaders their, behaviors, and how these behaviors influence team outcomes.

To answer these questions, I will need to recruit coaches of girls' U15, U16, and U17 teams and their athletes. In total, I need approximately 300 athletes to volunteer for the study. Participation on their part involves completing a questionnaire during a scheduled team practice or meeting. Completing the questionnaire should take approximately 30-40 minutes. All responses will be confidential. I will only be reporting the results for the entire sample as a whole and not for specific teams. Participants will be asked questions related to perceptions of their soccer ability, motivation, teammate leadership, and team cohesion and confidence. I have attached the Human Subject Proposal that was approved by the University of Virginia Institutional Review Board.

Upon completion of the project, the information gathered will help coaches and athletes understand what girls are experiencing during their soccer participation. Thank you for your consideration and I look forward to your review of the project. I will call in a few days to follow-up with you and discuss the project.

Sincerely,

Melissa S. Price
USSF 'A' Licensed Coach
(434) 249-0948
msp3h@virginia.edu

Maureen R. Weiss, PhD
Faculty Advisor
(434) 924-7860
mrw5d@virginia.edu

October 20, 2006

Dear Coach:

My name is Melissa Price. I am the head coach of the U14 SOCA Express team in Charlottesville, VA and a doctoral student in sport and exercise psychology at the University of Virginia studying under the advisement of Dr. Maureen Weiss. I am writing to seek your cooperation in a study I am conducting for my pre-dissertation project.

As a coach, I am very interested in how team members function as leaders on their teams. The goal of my project is to understand characteristics and behaviors of team leaders and *how* they influence team outcomes. To answer these questions, I am asking that your players complete a questionnaire that should take about 30 minutes before or after a scheduled practice or team meeting, whichever is more convenient for you and your team. Being a coach myself, I am aware of the time demands placed on you and your athletes during the season. Therefore, I want to make your team's involvement as brief as possible. All of your players' responses will be confidential.

Your cooperation in this project is greatly appreciated. The information gathered from this project will help coaches and athletes understand what girls are experiencing during their soccer participation.

If you have any questions or need to contact me, please feel free to call or email, my contact information is below. Thank you for your consideration.

Sincerely,

Melissa S. Price
USSF 'A' Licensed Coach
(434) 249-0948
msp3h@virginia.edu

Maureen R. Weiss, Ph.D.
Faculty Advisor
(434) 924-7860
mrw5d@virginia.edu

October 20, 2006

Dear Parent(s):

My name is Melissa Price. I am a doctoral student in sport and exercise psychology at the University of Virginia studying under the advisement of Dr. Maureen Weiss. I am writing to seek your cooperation in a study I am conducting for my pre-dissertation project. Your daughter's soccer coach has permitted me to conduct my project with her team.

I am very interested in how team members function as leaders on their teams. The goal of my project is to understand characteristics and behaviors of team leaders and *how* they influence team outcomes. To answer these questions, your daughter will complete a questionnaire that should take about 30 minutes before or after a scheduled practice or team meeting. I am aware of the time demands placed on coaches and athletes during the season. Therefore, I want to make your daughter's involvement as brief as possible. Your daughter's responses will be confidential.

Your cooperation in this project is greatly appreciated. The information gathered from this project will help coaches and athletes understand what girls are experiencing during their soccer participation.

Enclosed with this letter is a parent consent form. Please read it and sign it if you will allow your daughter to take part in this project. **PLEASE HAVE YOUR DAUGHTER BRING THIS FORM TO YOUR NEXT SCHEDULED PRACTICE.** If you have any questions or need to contact me, please feel free to call or email, my contact information is below. Thank you.

Sincerely,

Melissa S. Price
Doctoral Student
(434) 249-0948
msp3h@virginia.edu

Maureen R. Weiss, Ph.D.
Faculty Advisor
(434) 924-7860
mrw5d@virginia.edu

APPENDIX C

Study 1: Soccer Experiences Questionnaire

University of Virginia

Soccer Experiences Survey

What I Am Like

Sample Item

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
❑	❑	Some players like dogs better than cats	**BUT**	Other players like cats better than dogs.	❑	❑

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
❑	❑	Some players find it hard to make friends	**BUT**	For other players it's pretty easy.	❑	❑
❑	❑	Some players do very well at soccer	**BUT**	Other players don't feel that they are very good when it comes to soccer.	❑	❑
❑	❑	Some players usually do the right thing	**BUT**	Other players often don't do what they know is right.	❑	❑
❑	❑	Some players like hard soccer skills because they're challenging	**BUT**	Other players prefer easy soccer skills because they are sure they can do them.	❑	❑
❑	❑	Some players work on soccer skills to learn how to do them	**BUT**	Other players work on soccer skills because you're supposed to.	❑	❑
❑	❑	Some players have a lot of friends	**BUT**	Other players don't have very many friends.	❑	❑
❑	❑	Some players think they could do well at just about any new soccer skill	**BUT**	Other players are afraid they might not do well at a new soccer skill.	❑	❑
❑	❑	Some players often get in trouble for the things they do	**BUT**	Other players usually *don't* do things that get them in trouble.	❑	❑
❑	❑	Some players like difficult soccer skills because they enjoy trying to become good at them	**BUT**	Other players don't like to try difficult soccer skills.	❑	❑
❑	❑	Some players practice because their coach tells them to	**BUT**	Other players practice to find out how good they can become.	❑	❑
❑	❑	Some players are kind of hard to like	**BUT**	Other players are really easy to like.	❑	❑
❑	❑	Some players feel that they are better than others their age at soccer	**BUT**	Other players don't feel they can play as well.	❑	❑

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
❑	❑	Some players feel really good about the way they act	**BUT**	Other players *don't* feel that good about the way they often act.	❑	❑
❑	❑	Some players don't like difficult soccer skills because they have to work too hard	**BUT**	Other players like difficult soccer skills because they find them more challenging.	❑	❑
❑	❑	Some players practice skills because they are interested in soccer	**BUT**	Other players practice soccer skills because their coach wants them to.	❑	❑
❑	❑	Some players are popular with others their age	**BUT**	Other players are not very popular.	❑	❑
❑	❑	Some players don't do well at new soccer skills	**BUT**	Other players are good at new soccer skills right away.	❑	❑
❑	❑	Some players do things they know they shouldn't do	**BUT**	Other players hardly ever do things they know they shouldn't do.	❑	❑
❑	❑	Some players like to try new soccer skills that are more difficult to do	**BUT**	Other players would rather stick to soccer skills which are pretty easy.	❑	❑
❑	❑	Some players would rather just learn only what they have to in soccer	**BUT**	Other players would rather learn as much as they can.	❑	❑
❑	❑	Some players feel that they are socially accepted	**BUT**	Other players wished that more people their age accepted them.	❑	❑
❑	❑	Some players do not feel that they are very good at soccer	**BUT**	Other players feel that they *are* very good at soccer.	❑	❑
❑	❑	Some players usually act the way they know they are supposed to	**BUT**	Other players often don't act the way they are supposed to.	❑	❑
❑	❑	Some players like skills that are pretty easy to do	**BUT**	Other players like those skills that make them work pretty hard.	❑	❑

Thoughts About My Teammates

Rate each of your team members (skip yourself) on the following items. In each square on the line following her name, give the person a number between 1 and 7 that corresponds to the characteristic directly above the square. Use the following key to understand what each number stands for:

1 = Never like her **2 = Usually not like her** **3 = Sometimes like her** **4 = Occasionally like her**

5 = Often like her **6 = Usually like her** **7 = Always like her**

Example:

Name	Determined	Positive	Motivated	Consistent	Organized	Responsible	Skilled	Confident	Honest	Leader	Respected
Tina	5*	4	7	4	3	4	5	7	5	4	6

*This number means that you think the item "determined" is often like Tina.

Name	Determined	Positive	Motivated	Consistent	Organized	Responsible	Skilled	Confident	Honest	Leader	Respected

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

My Team Experiences

The following questions assess your feelings about **YOUR PERSONAL INVOLVEMENT** with this team. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of the statements.

---

1. I do not enjoy being a part of the social activities of this team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

2. I am not happy with the amount of playing time I get.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

3. I am not going to miss the members of this team when the season ends.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

4. I am unhappy with my team's desire to win.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

5. Some of my best friends are on this team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

6. This team does not give me enough opportunities to improve my personal performance.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

7. I enjoy other parties more than team functions.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

8. I do not like the style of play on this team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

9. For me, this team is one of the most important social groups to which I belong.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

The following questions assess your feelings about **YOUR TEAM AS A WHOLE**. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of the statements.

---

10. Our team is united in trying to reach its goals for performance.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

11. Members of our team would rather go out on their own than get together as a team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

12. We all take equal responsibility for any loss or performance by our team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

13. Our team members rarely party together.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

14. Our team members have conflicting aspirations for the team's performance.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

15. Our team would like to spend time together in the off-season.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

16. If members of our team have problems in practice that affect other team members, everyone wants to help them so we can get back together as a team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

17. Members of our team do not hang out or support each other outside of practices and games.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

18. Members of our team do not communicate freely about each other's roles during competition or practice.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

My Behaviors on the Team

Please respond to the following questions by indicating how typical each statement is for you using the scale below. Circle the number that corresponds with the answer that is most true for you.

	Never Like Me	Usually Not Like Me	Sometimes Like Me	Occasionally Like Me	Often Like Me	Usually Like Me	Always Like Me
1. I don't let my teammates settle for anything short of their best effort.	1	2	3	4	5	6	7
2. I try to be supportive and compassionate when my teammates are having a bad game or practice.	1	2	3	4	5	6	7
3. My teammates consider me a talented athlete.	1	2	3	4	5	6	7
4. I am a responsible person when preparing for practices and games.	1	2	3	4	5	6	7
5. My teammates know I always put the team first.	1	2	3	4	5	6	7
6. My teammates look to me to help them work though problems and disagreements.	1	2	3	4	5	6	7
7. I sacrifice personal engagements to go to practices and games.	1	2	3	4	5	6	7
8. I am admired by my teammates.	1	2	3	4	5	6	7
9. In games and practices, I am creative in how I play.	1	2	3	4	5	6	7
10. I lead by example.	1	2	3	4	5	6	7
11. I think my teammates find me sincere in my encouragement.	1	2	3	4	5	6	7
12. My teammates think I am a skilled athlete.	1	2	3	4	5	6	7
13. I am organized in my preparation for practices.	1	2	3	4	5	6	7
14. I bring out the best in my teammates.	1	2	3	4	5	6	7
15. I'm a calming influence in stressful competitive situations.	1	2	3	4	5	6	7

	Never Like Me	Usually Not Like Me	Sometimes Like Me	Occasionally Like Me	Often Like Me	Usually Like Me	Always Like Me
16. I am completely focused in games.	1	2	3	4	5	6	7
17. I am popular with my teammates.	1	2	3	4	5	6	7
18. My teammates consider me an imaginative athlete when I play.	1	2	3	4	5	6	7
19. I inspire my teammates to play harder.	1	2	3	4	5	6	7
20. My teammates would describe me as considerate.	1	2	3	4	5	6	7
21. I am an experienced athlete.	1	2	3	4	5	6	7
22. I am organized in my preparation for games.	1	2	3	4	5	6	7
23. I help my teammates get ready to play their best in an important competition.	1	2	3	4	5	6	7
24. My teammates look to me for leadership in crucial matches.	1	2	3	4	5	6	7
25. I am completely focused in practices.	1	2	3	4	5	6	7
26. I am respected by my teammates.	1	2	3	4	5	6	7
27. I am able to change my style of play according to the game situation.	1	2	3	4	5	6	7
28. I model a great work ethic that encourages my teammates to practice and play hard.	1	2	3	4	5	6	7
29. I am thought of by my teammates as honest.	1	2	3	4	5	6	7
30. I am a physically fast athlete.	1	2	3	4	5	6	7
31. I am physically and mentally prepared for practices.	1	2	3	4	5	6	7
32. I inspire my teammates to never give up no matter how tough the situation.	1	2	3	4	5	6	7

	Never Like Me	Usually Not Like Me	Sometimes Like Me	Occasionally Like Me	Often Like Me	Usually Like Me	Always Like Me
33. When things go wrong, my teammates look to me for answers.	1	2	3	4	5	6	7
34. I am not easily distracted in practices.	1	2	3	4	5	6	7
35. My teammates listen when I give opinions on game strategy.	1	2	3	4	5	6	7
36. I help my teammates adjust their style of play depending on the game situation.	1	2	3	4	5	6	7
37. I'm a great role model because of my training habits.	1	2	3	4	5	6	7
38. My teammates feel that I can be trusted.	1	2	3	4	5	6	7
39. I am a physically strong athlete.	1	2	3	4	5	6	7
40. I am physically and mentally prepared for games.	1	2	3	4	5	6	7
41. I push this team to always give their best effort.	1	2	3	4	5	6	7
42. My teammates expect me to come through at "crunch time."	1	2	3	4	5	6	7
43. I'm not easily distracted in games.	1	2	3	4	5	6	7
44. My teammates consider me to be mature in my behavior.	1	2	3	4	5	6	7
45. I understand game tactics and can change how I play to take advantage of my opponent's weakness.	1	2	3	4	5	6	7
46. I help my teammates deal positively with a loss.	1	2	3	4	5	6	7
47. I follow through with my responsibilities.	1	2	3	4	5	6	7
48. I'm the glue that keeps the team together and playing its best.	1	2	3	4	5	6	7
49. I am committed to help this team develop to their highest level of play.	1	2	3	4	5	6	7

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

My Team's Confidence

Instructions: Rate your team's confidence, in terms of the upcoming game or competition, that your team has the ability to...

	Not at All Confident										Extremely Confident
1. Outplay the opposing team	0	1	2	3	4	5	6	7	8	9	10
2. Resolve conflicts	0	1	2	3	4	5	6	7	8	9	10
3. Perform under pressure	0	1	2	3	4	5	6	7	8	9	10
4. Be ready	0	1	2	3	4	5	6	7	8	9	10
5. Show more ability than the other team	0	1	2	3	4	5	6	7	8	9	10
6. Be united	0	1	2	3	4	5	6	7	8	9	10
7. Persist when obstacles are present	0	1	2	3	4	5	6	7	8	9	10
8. Demonstrate a strong work ethic	0	1	2	3	4	5	6	7	8	9	10
9. Stay in the game when it seems like your team isn't getting any breaks	0	1	2	3	4	5	6	7	8	9	10
10. Play to its capabilities	0	1	2	3	4	5	6	7	8	9	10
11. Play well without your best player	0	1	2	3	4	5	6	7	8	9	10
12. Mentally prepare for this competition	0	1	2	3	4	5	6	7	8	9	10
13. Keep a positive attitude	0	1	2	3	4	5	6	7	8	9	10
14. Play more skillfully than the opponent	0	1	2	3	4	5	6	7	8	9	10
15. Perform better than the opposing team(s)	0	1	2	3	4	5	6	7	8	9	10
16. Show enthusiasm	0	1	2	3	4	5	6	7	8	9	10
17. Overcome distractions	0	1	2	3	4	5	6	7	8	9	10
18. Physically prepare for this competition	0	1	2	3	4	5	6	7	8	9	10
19. Devise a successful strategy	0	1	2	3	4	5	6	7	8	9	10
20. Maintain effective communication	0	1	2	3	4	5	6	7	8	9	10

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

Tell Us About You

---

1. Age: _____

2. Birthday (month/day/year) _____

3. Grade level in school: _____

4. Number of years playing for your *current* club team: _____

5. *TOTAL* number of years playing soccer on organized teams: _____

6. How do you describe yourself (circle one):

African-American Asian Native-American Indian

White Hispanic Other (describe): _____

THANK YOU SO MUCH FOR YOUR HELP!

PLEASE GO THROUGH AND MAKE SURE YOU ANSWERED EVERY QUESTION.

THEN RAISE YOUR HAND AND I WILL COME BY TO PICK UP YOUR SURVEY.

APPENDIX D

Study 2: IRB Approval Letter & Consent Forms

UNIVERSITY of VIRGINIA

Office of the Vice President for
RESEARCH *and* GRADUATE STUDIES
Institutional Review Board for the Social and Behavioral Sciences

In reply, please refer to: Project # 2008-0284-00

August 11, 2008

Melissa Price
Maureen Weiss
Leadership, Foundations & Policy
1047 Nevada St.
Reno, NV 89503

Dear Melissa Price and Maureen Weiss:

The Institutional Review Board for the Behavioral Sciences has approved your research project entitled "Sport Leadership." You may proceed with this study. Please use the Consent Forms enclosed with the print version of this approval as the masters for copying forms for participants.

This project # 2008-0284-00 has been approved for the period August 11, 2008 to August 10, 2009. If the study continues beyond the approval period, you will need to submit a continuation request to the Review Board. If you make changes in the study, you will need to notify the Board of the changes.

Sincerely,

Tonya R. Moon, Ph.D.
Chair, Institutional Review Board for the Social and Behavioral Sciences

One Morton Drive, Suite 500, Room 13 Charlottesville, VA 22903
P.O. Box 800392 • Charlottesville, VA 22908-0392
Phone: 434-924-3999 • Fax: 434-924-1992
www.virginia.edu/vpgrad/irb

Project Title: Sport Leadership.
Page 1

Parent/Guardian Informed Consent Agreement

Please read this consent agreement carefully before you decide your daughter can participate in the study. Your daughter will also receive an assent form.

Purpose of the research study: The purpose of the study is to better understand leadership on girls' soccer teams.

What your daughter will do in the study: Following a scheduled practice or team meeting, your daughter will complete a questionnaire about her experiences playing on a soccer team. She may skip any question that makes her feel uncomfortable and she can stop the survey at any time.

Time required: The study will require about 45 minutes.

Risks: You daughter may experience some minor discomfort from needing to rate their coaches and teammate on leadership behaviors and styles.

Benefits: There are no direct benefits to your daughter for participating in this research study. The study may help us understand what girls experience by playing on a soccer team.

Confidentiality: The information that your daughter gives in the study will be handled confidentially. Your daughter's information will be assigned a code number. The list connecting your daughter's name and this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your daughter's name will not be used in any report.

Voluntary participation: Your daughter's participation in the study is completely voluntary.

Right to withdraw from the study: Your daughter has the right to withdraw from the study at any time without penalty.

How to withdraw from the study: If your daughter wants to withdraw from the study, she needs to tell the researcher and she may leave the area and her survey will be discarded. There is no penalty for withdrawing. If you would like to withdraw after your daughter's materials have been submitted, please contact Melissa Price.

Payment: Your daughter will receive no payment for participating in the study.

If you have questions about the study, contact:

Melissa S. Price
Curry School of Education, Department of Leadership, Foundation, & Policy, PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434) 249-0948
msp3h@virginia.edu

Maureen Weiss, Ph.D.
School of Kinesiology, 1900 University Ave SE
University of Minnesota, Minneapolis, MN 55455.
Telephone: (612) 625-4155
mrweiss@umn.edu

Revision Date: 09/01/07

IRB-SBS Office Use Only		
Protocol #	2008-0284	
Approved	from: 8/11/08	to: 8/10/09
SBS Staff		

If you have questions about your rights in the study, contact:
Tonya R. Moon, Ph.D.,
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vprgs/irb

Agreement:
I agree to allow my daughter to participate in the research study described above.

Daughter's Name: _____

Signature: _____ **Date:** _____

You will receive a copy of this form for your records.

IRB-SBS Office Use Only	
Protocol #	2008 - 0284
Approved	from: 8/11/08 to: 8/10/09
SBS Staff	

Informed Consent Agreement (Athletes)

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study: The purpose of the study is to better understand leadership on girls' soccer teams.

What you will do in the study: Following a scheduled practice or team meeting, you will complete a questionnaire about your experiences playing on a soccer team. You may skip any question that makes you feel uncomfortable and you can stop the survey at any time.

Time required: The study will require about 45 minutes of your time.

Risks: You may experience some minor discomfort from needing to rate their coaches and teammate on leadership behaviors and styles.

Benefits: There are no direct benefits to you for participating in this research study. The study may help us understand what girls experience by playing on a soccer team.

Confidentiality: The information that you give in the study will be handled confidentially. Your information will be assigned a code number. The list connecting your name and this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report.

Voluntary participation: Your participation in the study is completely voluntary.

Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty.

How to withdraw from the study: If you want to withdraw from the study, tell the researcher. There is no penalty for withdrawing. If you would like to withdraw after your materials have been submitted, please contact Melissa Price.

Payment: You will receive no payment for participating in the study.

If you have questions about the study, contact:

Melissa S. Price
Curry School of Education, Department of Leadership, Foundation, & Policy, PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434) 249-0948
msp3h@virginia.edu

Maureen Weiss, Ph.D.
School of Kinesiology, 1900 University Ave SE
University of Minnesota, Minneapolis, MN 55455.
Telephone: (612) 625-4155
mrweiss@umn.edu

Revision Date: 09/01/07

IRB-SBS Office Use Only	
Protocol #	2008-0284
Approved SBS Staff	from: 8/14/08 to: 8/10/09

Project Title: Sport Leadership.
Page 2

If you have questions about your rights in the study, contact:
Tonya R. Moon, Ph.D.,
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vprgs/irb

Agreement:
I agree to participate in the research study described above.

Signature: _____ **Date:** _____

You will receive a copy of this form for your records.

Revision Date: 09/01/07

IRB-SBS Office Use Only		
Protocol #	2008-0284	
Approved SBS Staff	from: 8/11/08	to: 8/10/09

Project Title: Sport Leadership.
Page 1

Informed Consent Agreement (Coaches)

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study: The purpose of the study is to better understand leadership on girls' soccer teams.

What you will do in the study: Following a scheduled practice or team meeting, you will complete a questionnaire about your coaching experience. You may skip any question that makes you feel uncomfortable and you can stop the survey at any time.

Time required: The study will require about 10 minutes of your time.

Risks: There are no anticipated risks in this study.

Benefits: There are no direct benefits to you for participating in this research study. The study may help us understand what girls experience by playing on a soccer team.

Confidentiality: The information that you give in the study will be handled confidentially. Your information will be assigned a code number. The list connecting your name and this code will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report.

Voluntary participation: Your participation in the study is completely voluntary.

Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty.

How to withdraw from the study: If you want to withdraw from the study, tell the researcher. There is no penalty for withdrawing. If you would like to withdraw after your materials have been submitted, please contact Melissa Price.

Payment: You will receive no payment for participating in the study.

If you have questions about the study, contact:
Melissa S. Price
Curry School of Education, Department of Leadership, Foundation, & Policy, PO Box 400265
University of Virginia, Charlottesville, VA 22903.
Telephone: (434) 249-0948
msp3h@virginia.edu

Maureen Weiss, Ph.D.
School of Kinesiology, 1900 University Ave SE
University of Minnesota, Minneapolis, MN 55455.
Telephone: (612) 625-4155
mrweiss@umn.edu

Revision Date: 09/01/07

IRB-SBS Office Use Only				
Protocol #	2008-0[illegible]			
Approved	from:	8/11/08	to:	8/10/09
SBS Staff				

Project Title: Sport Leadership.
Page 2

If you have questions about your rights in the study, contact:
Tonya R. Moon, Ph.D.,
Chair, Institutional Review Board for the Social and Behavioral Sciences
One Morton Dr Suite 500
University of Virginia, P.O. Box 800392
Charlottesville, VA 22908-0392
Telephone: (434) 924-5999
Email: irbsbshelp@virginia.edu
Website: www.virginia.edu/vprgs/irb

Agreement:
I agree to participate in the research study described above.

Signature: _____ **Date:** _____

You will receive a copy of this form for your records.

Revision Date: 09/01/07

IRB-SBS Office Use Only	
Protocol #	2008-0284
Approved SBS Staff	from: 8/11/08 to: 8/10/09

APPENDIX E

Study 2: Coach and Parent Letters

August 25, 2008

Dear Coach:

My name is Melissa Price and I am a doctoral student in sport and exercise psychology at University of Virginia studying under the advisement of Dr. Maureen Weiss. I am writing to seek your cooperation in a study I am conducting for my dissertation project.

As a coach, I am very interested in how coaches and athletes function as leaders on their teams. The goal of my project is to understand behaviors of team leaders and *how* they influence team outcomes. To answer these questions, I am asking that your players complete a questionnaire that should take about 45 minutes before or after a scheduled practice or team meeting, whichever is more convenient for you and your team. Being a coach myself, I am aware of the time demands placed on you and your athletes during the season. Therefore, I want to make your team's involvement as brief as possible. All of your players' responses will be confidential.

Your cooperation in this project is greatly appreciated. The information gathered from this project will help coaches and athletes understand what girls are experiencing during their soccer participation.

I will be calling you in a few days to answer any questions you may have and to find out if you are interested in helping me with my project. If you have any questions or need to contact me, please feel free to call or email, my contact information is below. Thank you for your consideration.

Sincerely,

Melissa S. Price
Doctoral Student
University of Virginia
(434) 249-0948
msp3h@virginia.edu

Maureen R. Weiss, Ph.D.
Professor, School of Kinesiology
University of Minnesota
(612) 625-4155
mrweiss@umn.edu

August 25, 2008

Dear Parent(s):

My name is Melissa Price. I am a doctoral student in sport and exercise psychology at University of Virginia studying under the advisement of Dr. Maureen Weiss. I am writing to seek your cooperation in a study I am conducting for my dissertation project. Your daughter's soccer coach has permitted me to conduct my project with your daughter's team.

I am very interested in how coaches and team members function as leaders on their teams. The goal of my project is to understand behaviors of team leaders and *how* they influence athlete outcomes. To answer these questions, your daughter will complete a questionnaire that should take about 45 minutes before or after a scheduled practice or team meeting. I am aware of the time demands placed on coaches and athletes during the season. Therefore, I want to make your daughter's involvement as brief as possible. Your daughter's responses will be confidential.

Your cooperation in this project is greatly appreciated. The information gathered from this project will help coaches and athletes understand what girls are experiencing during their soccer participation.

Enclosed with this letter is a parent consent form. Please read it and sign it if you will allow your daughter to take part in this project. **PLEASE HAVE YOUR DAUGHTER BRING THIS FORM TO HER NEXT SCHEDULED PRACTICE.** If you have any questions or need to contact me, please feel free to call or email, my contact information is below. Thank you.

Sincerely,

Melissa S. Price
Doctoral Student
University of Virginia
(434) 249-0948
msp3h@virginia.edu

Maureen R. Weiss, Ph.D.
Professor, School of Kinesiology
University of Minnesota
(612) 625-4155
mrweiss@umn.edu

APPENDIX F

Study 2: Soccer Experiences Survey

University of Virginia

Soccer Experiences Survey

What I Am Like

Sample Item

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
❑	❑	Some players like dogs better than cats	**BUT**	Other players like cats better than dogs.	❑	❑

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
❑	❑	When some players can't learn a skill right away they want the coach to help them	**BUT**	Other players would rather figure it out by themselves.	❑	❑
❑	❑	Some players do very well at soccer	**BUT**	Other players don't feel that they are very good when it comes to soccer.	❑	❑
❑	❑	Some players like hard soccer skills because they're challenging	**BUT**	Other players prefer easy soccer skills because they are sure they can do them.	❑	❑
❑	❑	Some players work on soccer skills to learn how to do them	**BUT**	Other players work on soccer skills because you're supposed to.	❑	❑
❑	❑	When some players make a mistake they would rather figure out the right way by themselves	**BUT**	Other players would rather ask the coach how to do it right.	❑	❑
❑	❑	Some players think they could do well at just about any new soccer skill	**BUT**	Other players are afraid they might not do well at a new soccer skill.	❑	❑
❑	❑	Some players like difficult soccer skills because they enjoy trying to become good at them	**BUT**	Other players don't like to try difficult soccer skills.	❑	❑
❑	❑	Some players practice because their coach tells them to	**BUT**	Other players practice to find out how good they can become.	❑	❑
❑	❑	If some players get stuck on a skill, they ask the coach for help	**BUT**	Other players keep trying to figure out the skill on their own.	❑	❑
❑	❑	Some players feel that they are better than others their age at soccer	**BUT**	Other players don't feel they can play as well.	❑	❑

Really True for Me	Sort of True for Me				Sort of True for Me	Really True for Me
❑	❑	Some players don't like difficult soccer skills because they have to work too hard	**BUT**	Other players like difficult soccer skills because they find them more challenging.	❑	❑
❑	❑	Some players practice skills because they are interested in soccer	**BUT**	Other players practice soccer skills because their coach wants them to.	❑	❑
❑	❑	Some players like to try to figure out how to do soccer skills on their own	**BUT**	Other players would rather ask the coach how it should be done.	❑	❑
❑	❑	Some players don't do well at new soccer skills	**BUT**	Other players are good at new soccer skills right away.	❑	❑
❑	❑	Some players like to try new soccer skills that are more difficult to do	**BUT**	Other players would rather stick to soccer skills which are pretty easy.	❑	❑
❑	❑	Some players would rather just learn only what they have to in soccer	**BUT**	Other players would rather learn as much as they can.	❑	❑
❑	❑	Some players like to practice their skills without help	**BUT**	Other players like to have the coach help them practice their skills.	❑	❑
❑	❑	Some players do not feel that they are very good at soccer	**BUT**	Other players feel that they *are* very good at soccer.	❑	❑
❑	❑	Some players like skills that are pretty easy to do	**BUT**	Other players like those skills that make them work pretty hard.	❑	❑

Thoughts About My Team Leader

This questionnaire is used to describe a person on your team who you consider to be a leader. A leader is someone who guides the team toward a common goal. Please think of someone on your team who you believe shows leadership qualities. **This could be anyone on your team, not necessarily a team captain. Do not include yourself.** Write that person's name in the space below and on each of the subsequent pages.

Name of Team Leader: _____

Circle the number that best describes how frequently each statement fits the person you are describing.

The Person I Am Rating...	Not at all	Once in a while	Sometimes	Fairly Often	Frequently, if not always
1. Provides me with assistance in exchange for my efforts.	0	1	2	3	4
2. Re-examines critical assumptions to question whether they are appropriate.	0	1	2	3	4
3. Fails to interfere until problems become serious.	0	1	2	3	4
4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.	0	1	2	3	4
5. Avoids getting involved when important issues arise.	0	1	2	3	4
6. Talks about her most important values and beliefs.	0	1	2	3	4
7. Is absent when needed.	0	1	2	3	4
8. Seeks differing perspectives when solving problems.	0	1	2	3	4
9. Talks optimistically about the future.	0	1	2	3	4

Name of Team Leader: _____

The Person I Am Rating...	Not at all	Once in a while	Sometimes	Fairly Often	Frequently, if not always
10. Instills pride in me for being associated with her.	0	1	2	3	4
11. Discusses in specific terms who is responsible for achieving performance targets.	0	1	2	3	4
12. Waits for things to go wrong before taking action.	0	1	2	3	4
13. Talks enthusiastically about what needs to be accomplished.	0	1	2	3	4
14. Specifies the importance of having a strong sense of purpose.	0	1	2	3	4
15. Spends time teaching and coaching.	0	1	2	3	4
16. Makes clear what one can expect to receive when performance goals are achieved.	0	1	2	3	4
17. Shows that she is a firm believer in "if it ain't broke, don't fix it."	0	1	2	3	4
18. Goes beyond self-interest for the good of the group.	0	1	2	3	4
19. Treats me as an individual rather than just as a member of a group.	0	1	2	3	4
20. Demonstrates that problems must become chronic before taking action.	0	1	2	3	4
21. Acts in ways that builds my respect.	0	1	2	3	4
22. Concentrates her full attention on dealing with mistakes, complaints, and failures.	0	1	2	3	4
23. Considers the moral and ethical consequences of decisions.	0	1	2	3	4

Name of Team Leader: _____

The Person I Am Rating...	Not at all	Once in a while	Sometimes	Fairly Often	Frequently, if not always
24. Keeps track of all mistakes.	0	1	2	3	4
25. Displays a sense of power and confidence.	0	1	2	3	4
26. Articulates a compelling vision of the future.	0	1	2	3	4
27. Directs my attention toward failures to meet standards.	0	1	2	3	4
28. Avoids making decisions.	0	1	2	3	4
29. Considers me as having different needs, abilities, and aspirations from others.	0	1	2	3	4
30. Gets me to look at problems from many different angles.	0	1	2	3	4
31. Helps me to develop my strengths.	0	1	2	3	4
32. Suggests new ways of looking at how to complete assignments.	0	1	2	3	4
33. Delays responding to urgent questions.	0	1	2	3	4
34. Emphasizes the importance of having a collective sense of mission.	0	1	2	3	4
35. Expresses satisfaction when I meet expectations.	0	1	2	3	4
36. Expresses confidence that goals will be achieved.	0	1	2	3	4

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

Name of Team Leader: _____

Tell us about the Team Leader:

1. How long have you played soccer with the team leader you mentioned above? _____ (indicate years or months)

2. The team leader I named is: ☐ a team captain ☐ not a team captain ☐ sometimes a team captain

☐ we don't have team captains

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

My Team Experiences

The following questions assess your feelings about **YOUR PERSONAL INVOLVEMENT** with this team. Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of the statements.

---

1. I do not enjoy being a part of the social activities of this team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

2. I am not happy with the amount of playing time I get.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

3. I am not going to miss the members of this team when the season ends.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

4. I am unhappy with my team's desire to win.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

5. Some of my best friends are on this team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

6. This team does not give me enough opportunities to improve my personal performance.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

7. I enjoy other parties more than team functions.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

8. I do not like the style of play on this team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

9. For me, this team is one of the most important social groups to which I belong.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

The following questions assess your feelings about **YOUR TEAM AS A WHOLE.** Please CIRCLE a number from 1 to 9 to indicate your level of agreement with each of the statements.

---

10. Our team is united in trying to reach its goals for performance.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

11. Members of our team would rather go out on their own than get together as a team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

12. We all take equal responsibility for any loss or performance by our team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

13. Our team members rarely party together.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

14. Our team members have conflicting aspirations for the team's performance.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

15. Our team would like to spend time together in the off-season.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

16. If members of our team have problems in practice that affect other team members, everyone wants to help them so we can get back together as a team.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

17. Members of our team do not hang out or support each other outside of practices and games.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

18. Members of our team do not communicate freely about each other's roles during competition or practice.

1	2	3	4	5	6	7	8	9
Strongly disagree								Strongly agree

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

Thoughts About My Coach

This questionnaire is used to describe the leadership style of the Head Coach of your club team. Circle the number that represents how frequently each statement fits your Head Coach. Write your Head Coach's name in the space below and on each of the subsequent pages.

Name of Head Coach: _____

The Person I Am Rating...	Not at all	Once in a while	Sometimes	Fairly Often	Frequently, if not always
1. Provides me with assistance in exchange for my efforts.	0	1	2	3	4
2. Re-examines critical assumptions to question whether they are appropriate.	0	1	2	3	4
3. Fails to interfere until problems become serious.	0	1	2	3	4
4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.	0	1	2	3	4
5. Avoids getting involved when important issues arise.	0	1	2	3	4
6. Talks about his/her most important values and beliefs.	0	1	2	3	4
7. Is absent when needed.	0	1	2	3	4
8. Seeks differing perspectives when solving problems.	0	1	2	3	4
9. Talks optimistically about the future.	0	1	2	3	4
10. Instills pride in me for being associated with him/her.	0	1	2	3	4
11. Discusses in specific terms who is responsible for achieving performance targets.	0	1	2	3	4

Name of Head Coach: _____

The Person I Am Rating...	Not at all	Once in a while	Sometimes	Fairly Often	Frequently, if not always
12. Waits for things to go wrong before taking action.	0	1	2	3	4
13. Talks enthusiastically about what needs to be accomplished.	0	1	2	3	4
14. Specifies the importance of having a strong sense of purpose.	0	1	2	3	4
15. Spends time teaching and coaching.	0	1	2	3	4
16. Makes clear what one can expect to receive when performance goals are achieved.	0	1	2	3	4
17. Shows that he/she is a firm believer in "if it ain't broke, don't fix it."	0	1	2	3	4
18. Goes beyond self-interest for the good of the group.	0	1	2	3	4
19. Treats me as an individual rather than just as a member of a group.	0	1	2	3	4
20. Demonstrates that problems must become chronic before taking action.	0	1	2	3	4
21. Acts in ways that builds my respect.	0	1	2	3	4
22. Concentrates his/her full attention on dealing with mistakes, complaints, failures.	0	1	2	3	4
23. Considers the moral and ethical consequences of decisions.	0	1	2	3	4
24. Keeps track of all mistakes.	0	1	2	3	4
25. Displays a sense of power and confidence.	0	1	2	3	4
26. Articulates a compelling vision of the future.	0	1	2	3	4

Name of Head Coach: _____

The Person I Am Rating...	Not at all	Once in a while	Sometimes	Fairly Often	Frequently, if not always
27. Directs my attention toward failures to meet standards.	0	1	2	3	4
28. Avoids making decisions.	0	1	2	3	4
29. Considers me as having different needs, abilities, and aspirations from others.	0	1	2	3	4
30. Gets me to look at problems from many different angles.	0	1	2	3	4
31. Helps me to develop my strengths.	0	1	2	3	4
32. Suggests new ways of looking at how to complete assignments.	0	1	2	3	4
33. Delays responding to urgent questions.	0	1	2	3	4
34. Emphasizes the importance of having a collective sense of mission.	0	1	2	3	4
35. Expresses satisfaction when I meet expectations.	0	1	2	3	4
36. Expresses confidence that goals will be achieved.	0	1	2	3	4

Tell us about your Head Coach:

How long have you played soccer for the Head Coach you mentioned above? _____ (indicate years or months)

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

How I Feel About Playing Soccer on this Team

For the following questions, please circle the response that best describes how you feel about the statement.

1. How dedicated are you to playing on this team?

Not at all dedicated	A little dedicated	Sort of dedicated	Dedicated	Very dedicated
1	2	3	4	5

2. How fun is soccer participation on this team?

Not at all	A little	Sort of	Pretty Much	Very Much So
1	2	3	4	5

3. How hard would it be for you to quit this team?

Not at all hard	A little hard	Sort of hard	Hard	Very hard
1	2	3	4	5

4. How much do you like playing soccer on this team?

Not at all	A little	Sort of	Pretty much	Very much so
1	2	3	4	5

5. How determined are you to keep playing on this team?

Not at all determined	A little determined	Sort of determined	Determined	Very determined
1	2	3	4	5

6. How much do you enjoy being on this soccer team?

Not at all	A little	Sort of	Pretty Much	Very Much So
1	2	3	4	5

7. What would you be willing to do to keep playing on this team?

Nothing at all	A few things	Some things	Many things	A lot of things
1	2	3	4	5

8. Do you want to keep participating on this team?

Not at all	A little	Sort of	Pretty much	Very much so
1	2	3	4	5

PLEASE CONTINUE WITH THE SURVEY ON THE NEXT PAGE. BE SURE TO READ THE INSTRUCTIONS FIRST.

My Team's Confidence

Rate your team's confidence, in terms of the upcoming game or competition, that your team has the ability to...

	Not at All Confident										Extremely Confident
1. Outplay the opposing team	0	1	2	3	4	5	6	7	8	9	10
2. Resolve conflicts	0	1	2	3	4	5	6	7	8	9	10
3. Perform under pressure	0	1	2	3	4	5	6	7	8	9	10
4. Be ready	0	1	2	3	4	5	6	7	8	9	10
5. Show more ability than the other team	0	1	2	3	4	5	6	7	8	9	10
6. Be united	0	1	2	3	4	5	6	7	8	9	10
7. Persist when obstacles are present	0	1	2	3	4	5	6	7	8	9	10
8. Demonstrate a strong work ethic	0	1	2	3	4	5	6	7	8	9	10
9. Stay in the game when it seems like your team isn't getting any breaks	0	1	2	3	4	5	6	7	8	9	10
10. Play to its capabilities	0	1	2	3	4	5	6	7	8	9	10
11. Play well without your best player	0	1	2	3	4	5	6	7	8	9	10
12. Mentally prepare for this competition	0	1	2	3	4	5	6	7	8	9	10
13. Keep a positive attitude	0	1	2	3	4	5	6	7	8	9	10
14. Play more skillfully than the opponent	0	1	2	3	4	5	6	7	8	9	10
15. Perform better than the opposing team(s)	0	1	2	3	4	5	6	7	8	9	10
16. Show enthusiasm	0	1	2	3	4	5	6	7	8	9	10
17. Overcome distractions	0	1	2	3	4	5	6	7	8	9	10
18. Physically prepare for this competition	0	1	2	3	4	5	6	7	8	9	10
19. Devise a successful strategy	0	1	2	3	4	5	6	7	8	9	10
20. Maintain effective communication	0	1	2	3	4	5	6	7	8	9	10

TELL US ABOUT YOU

1. Age: _____

2. Birthday (month/day/year) _____

3. Number of years playing for your *current* club team: _____

4. *TOTAL* number of years playing soccer on organized teams: _____

5. How do you describe yourself (circle one):

African-American Asian Native-American Indian

White Hispanic Other (describe): _____

PLEASE GO BACK THROUGH THE SURVEY AND MAKE SURE YOU ANSWERED EVERY QUESTION.

THANK YOU SO MUCH FOR YOUR HELP!

APPENDIX G

Study 2: Soccer Coaches Survey

UNIVERSITY OF VIRGINIA

Soccer Coaches Survey

Tell Us About You

1. Age: _____

2. Birthday (month/day/year): _____

3. Gender (circle one): Male Female

4. Number of years coaching your *current* club team: _____

5. *TOTAL* number of years coaching soccer on organized teams: _____

6. Current record of this club team (wins-losses-ties): _____

7. Overall record coaching this club team (wins-losses-ties): _____

8. Highest level of coaching license: _____

9. How do you describe yourself (circle one):

   African-American Asian Native-American Indian

   White Hispanic Other (describe): _____

THANK YOU SO MUCH FOR YOUR HELP!

APPENDIX H

Study 2: Subscale and Item Parcels for Purposes 2 – 4

Individual and Team Outcomes

```
COMPUTE pc_a=MEAN(h6,h18).
EXECUTE.
COMPUTE pc_b=MEAN(h2,h10,h14).
EXECUTE.
COMPUTE commit_a=MEAN(feel1,feel7).
EXECUTE.
COMPUTE commit_b=MEAN(feel3,feel5,feel8).
EXECUTE.
COMPUTE imot_a=MEAN(h4,h11,h12,h19).
EXECUTE.
COMPUTE imot_b=MEAN(h3,h8,h7,h15,h16).
EXECUTE.
COMPUTE task_a=MEAN(coh4,coh10,coh14,coh16).
EXECUTE.
COMPUTE task_b=MEAN(coh6,coh8,coh12,coh18).
EXECUTE.
COMPUTE social_a=MEAN(coh1,coh7,coh11,coh17).
EXECUTE.
COMPUTE social_b=MEAN(coh3,coh5,coh9,coh13,coh15).
EXECUTE.
COMPUTE ce_a=MEAN(ceabilty,ceprep).
EXECUTE.
COMPUTE ce_b=MEAN(cepersist,ceunity,ceeffort).
EXECUTE.
```

Peer and Coach Leadership

```
COMPUTE ptrans_a=MEAN(p10,p23,p2,p19,p21,p15,p26,p29).
EXECUTE.
COMPUTE ptrans_b=MEAN(p18,p25,p14,p34,p1,p8,p6,p31).
EXECUTE.
COMPUTE ptrans_c=MEAN(p9,p11,p16,p13,p30,p36,p32,p35).
EXECUTE.
COMPUTE ppassv_a=MEAN(p5,p12,p20,p28).
EXECUTE.
COMPUTE ppassv_b=MEAN(p3,p7,p33,p17).
EXECUTE.
COMPUTE ctrans_a=MEAN(c10,c23,c2,c19,c21,c15,c26,c29).
EXECUTE.
COMPUTE ctrans_b=MEAN(c18,c25,c14,c34,c1,c8,c6,c31).
EXECUTE.
COMPUTE ctrans_c=MEAN(c9,c11,c16,c13,c30,c36,c32,c35).
EXECUTE.
COMPUTE cpassv_a=MEAN(c5,c12,c20,c28).
EXECUTE.
COMPUTE cpassv_b=MEAN(c3,c7,c33,c17).
EXECUTE.
```