AN EXPLORATORY FACTOR ANALYSIS OF THE POSITIVE COACHING INVENTORY

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by

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DEDICATION

I find inspiration in the relationships in my life: my faith, my family, my friends, my professors, and my coaching mentors.

My family makes me proud, and I want to make my family proud. I dedicate this dissertation to my family. In particular, this is dedicated to my grandmother (Eloise).

Eloise was known to enter a room with a grin as she surrounded herself in the youth of her grandchildren. She radiated a generous, kindhearted spirit which inspired three generations. She modeled unconditional love, and I was often blessed with her thoughtful, caring gifts. She was an English major who showed her love through handwritten and typewritten letters. She even mastered the art of typewriting on post-it notes!

She maintained a monthly handwritten correspondence with me through her early 90's when I was in graduate school at the University of Missouri. I cherished her monthly updates on books she read, random observations from recent family gatherings, as well as her unfailing words of encouragement regarding my academic pursuits. I was delighted to hear that my grandmother continued the tradition of handwritten letters with my niece (Izabella) who was a fellow bookworm.

I am thankful that my grandmother gifted me with a thesaurus at a young age, as she passed along her love of language to me. She inspired my fascination with big words (that I couldn't pronounce) and pursuit of creative writing as a college minor. It took a lot of words to craft this dissertation and many consultations with a beloved thesaurus. It is my hope that I have honored her memory with this piece of scientific work.

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Abstract

Positive coaching is a strengths-based coaching paradigm that derives from the integration of the positive psychology and sport psychology disciplines. To date, there is no measurement that encapsulates the core theoretical ideas and concepts of positive coaching. The present study introduces a measurement, the Positive Coaching Inventory (PCI), to assess the multidimensional construct of positive coaching. Data was collected from 14 high schools (total $N = 189$), encompassing both urban and rural school districts. The results from the exploratory factor analysis suggested a meaningful two-factor solution with 15 items. The factors were labeled *Positive Mentorship and Training* (PMT) and *Meaningful Interpersonal Connections* (MIC). The findings provided strong evidence that athletes prefer a strengths-based training environment in which coaches cultivate supportive, encouraging relationships and provide clear guidance and mentorship on mental and physical skill acquisition. The PCI showed excellent overall internal consistency ($\alpha = .92$) with strong coefficient alphas for the PMT (.89) and MIC (.85) factors. The discussion focuses on the implications, both theoretical and empirical, for how the current findings impact coaching research and practice, and recommendations for future research are addressed.

Keywords: meaningful interpersonal connections, positive coaching, positive mentorship and training, positive psychology, self-determination theory, transformational leadership, transactional behavior

Chapter I

Introduction

An emerging group of coaches and sport psychologists are advocating for a positive coaching model to train athletes (Gordon & Gucciardi, 2011, McGuire, 2012; Thompson, 1995, 2003, 2010; Salama-Younes, 2011). Research examining the influence of positive coaching on the behavioral, psychological, emotional, and athletic development of athletes is a novel pursuit in the sport psychology literature, and it merits further exploration.

Positive coaching has evolved from the systematic integration of the research, theory, and applied interventions between the disciplines of sport psychology and positive psychology due to a shared interest in the study of optimal human experiences (Gordon & Gucciardi, 2011; Kauffman, 2006; Kauffman, Bonniwell, & Silberman, 2009; Kauffman & Linley, 2007; Linley & Kauffman, 2007; Salama-Younes, 2011; Thompson, 1995, 2003, 2010). Sport psychology has been defined by investigations on the interactive relationship between athletic performance and psychological and emotional states (Cox, 2007). Particular attention within the sport psychology literature has focused on coaching factors, such as leadership behaviors and styles, which can facilitate successful athletic performance (Callow, Smith, Hardy, Arthur, & Hardy, 2009; Charbonneau, Barling, & Kelloway, 2001; Chelladurai, 1978, 1993; Deci & Ryan, 1985, 1991, 2000; Fiedler, 1967; Rowold, 2006; Ryan & Deci, 2000). Positive psychology has been interested in understanding human strengths and virtues (Biswas-Diener & Dean, 2007; Millner, 2012; Seligman & Csikszentmihalyi, 2000; Snyder, Lopez, & Pedrotti, 2011) and has advanced these constructs by studying well-being (Weinberg & Gould, 1995; Diener & Emmons, 1985), happiness (Lyubomirsky & Lepper, 1999), and flourishing (Seligman, 2011). The natural intersection between optimal performance in sport psychology (Jackson & Eklund, 2002;

Jackson & Marsh, 1996; Jackson, Thomas, Marsh, & Smethurst, 2001) and flourishing in positive psychology (Seligman, 2011) has facilitated the conceptual development and growth of positive coaching (Gordon & Gucciardi, 2011; Kauffman, 2006; Linley & Kauffman, 2007; McGuire, 2012; Salama-Younes, 2011; Thompson, 1995, 2003, 2010).

The theoretical and empirical framework for positive coaching is based upon a cross-theory approach to understanding the application of core positive psychology principles on optimal human functioning (Linley & Joseph, 2004). The setting for much of the positive coaching theory, research, and application has occurred in organizations and workplaces (Driver, 2011; Kauffman, 2006; Kauffman et al., 2009; Kauffman & Linley, 2007; Linley & Kauffman, 2007). There has been an emerging interest from sport psychologists and coaches to assess for and incorporate models of coaching that are built on a strengths-based positive psychology approach (Gordon & Gucciardi, 2011; McGuire, 2012; Salama-Younes, 2011; Snyder & Lopez, 2002; Thompson, 2003, 2010).

However, confusion may occur with the term "coaching" as it appears in the positive coaching literature. Coaching may refer to *positive executive coaching* or *positive sport coaching*. The nature of positive executive coaching, or life coaching, uses the central themes of applied positive psychology to enhance an individual's performance at work or in life (Driver, 2011; Hefferon & Boniwell, 2011; Kauffman, 2006). Conversely, positive sport coaching blends the concepts of positive psychology into the theoretical and empirical research on coaching leadership behavior, motivation, and training techniques to form a strengths-based coaching model (Gordon & Gucciardi, 2011; McGuire, 2012).

One may argue that positive executive coaching and positive sport coaching are separate sides of the same coin. The similarity is that both domains fall under the umbrella of applied

positive psychology; therefore, these domains share a philosophical perspective that advocates for the identification and fostering of personal strengths rather than attempting to fix deficits (Seligman, 1999, 2011). These domains also overlap on the centrality of encouraging resilience, growth/success mindset, positive emotions, collaborative and supportive relationships, well-being and happiness, and character strengths (Driver, 2011; Gordon & Gucciardi, 2011; Kauffman, 2006; Kauffman et al., 2009; Linley & Kauffman, 2007; Salama-Younes, 2011). The only distinction appears to be the population that these domains sample from, as positive executive coaching studies business contexts with non-clinical clients (Diver, 2011; Stober & Grant, 2006) and positive sport coaching investigates the athletic environment, athletes, and sport coaches (Gordon & Gucciardi, 2011; Salama-Younes, 2011).

The subsequent focus of this literature review is on the dimensional structure of the positive sport coaching construct. Positive sport coaching is in the early stages of its development, and the field is yet to establish a strong identity. This is partly due to a lack of reliable and valid measurements to assess its core theoretical ideas and concepts. At present, there does not seem to be psychometrically sound inventories to assess the dimensional structure of the positive sport coaching construct. Thus, research is required to advance the understanding of the multidimensionality of positive sport coaching.

The development of a positive sport coaching inventory could promote theory building and theory testing. Moreover, as there is evidence to suggest that strengths-based coaching programs in non-sport settings can increase one's happiness, self-esteem, improve work engagement and performance, enhance resilience, and decrease stress (Linley, Nielsen, Wood, Gillett, & Biswas-Diener, 2010), an investigation into the processes and factor structure of positive sport coaching is warranted. Such an inventory could extend the positive sport coaching

literature and provide researchers, sport psychologists, and coaches with opportunities to introduce and test evidence-based positive coaching interventions.

The literature review will include a brief overview of the hypothesized multidimensional nature of the positive coaching construct. To achieve this goal, this paper will discuss relevant theories on (a) coaching leadership and relational style, (b) motivation, and (c) positive psychology that appear to form the underlying factor structure of positive sport coaching.

Leadership and Relational Style

Underlying the hypothetical positive sport coaching construct appears to be a dimension of the leadership and relational style of the coach. Jowett and Lavallee (2007) concluded that sport psychology has long-recognized the importance that the coach's leadership approach can have on the interpersonal dynamics between the coach and athlete (Chelladurai, 1978, 1980, 1993, 2009; Smoll & Smith, 1989; Smoll, Smith, Curtis, & Hunt, 1978). In addition to a coach's leadership style, Jowett and colleagues (Jowett & Chaundy, 2004; Jowett & Cockerill, 2003; Jowett, Paull, Pensgaard, Hoegmo, & Riise, 2005) discussed the significance that the coach's relational style has on the quality of the coach-athlete relationship. They defined leadership style as the coach's behavioral processes that affect an athlete's satisfaction, self-esteem, and motivation to reach performance goals. Relational style was operationalized as closeness (level of trust, liking, and respect in the relationship), commitment (intention to maintain and maximize the relationship), complimentarity (bidirectional, mutual effort to improve performance), and co-orientation (coach's and athlete's interpersonal perceptions on the level of agreement and understanding in the relationship). The authors found that leadership and relational variables contribute to four broad areas of development within the athlete: (a) intrapersonal (e.g., motivation style, self-esteem), (b) interpersonal (e.g., healthy communication skills, decision

making), (c) psychosocial (e.g., cohesion among teammates), and (d) sport-specific (e.g., training and skill acquisition, and competitive performance).

Furthermore, Jowett and Chaundy (2004) observed that the coach's leadership and relational style has a powerful effect on the athletes' interpretation of the sport experience. Coaches that are able to interpersonally connect with their athletes' psychoemotional experiences are likely to create a harmonious, supportive, respectful, trusting, and empowering sport environment (Jowett et al., 2005; Jowett & Cockerill, 2003; Jowett & Meek, 2000a, 2000b). Douge (1999) has found that coach-athlete relationships which encourage the qualities of respect, acceptance, and appreciation are associated with positive, successful coaching. Research on the connection between coaching styles and success of athletes, as individuals and as a part of a team, has also shown that the leadership style used by a coach influences outcome performance and psychological well-being (Bird, 1977; Horn, 2008).

Fundamental to the leadership and relational process is a coach that can communicate expectations, goals, and objectives (Tuckman, 1965; Vernacchia, McGuire, & Cook, 1996). These combined, continuous interactions lead to a culture of norms wherein the athletes and coaches are forming tasks and social roles (Cox, 2007; Vernacchia et al., 1996). An exploration of the coach-athlete relationship highlights the importance that leadership and communication styles have on athletes' subjective experiences of the sport (Jowett et al., 2005). Although the aforementioned research is promising, Wylleman (2000) indicated that a lack of valid measurements to investigate the coach-athlete relationship has led to an incomplete understanding of this relationship.

Chelladurai (1978, 1993, 2009) proposed a multidimensional model of leadership (MML) in sport that has been fundamental in theory development and testing of leadership styles. The

model conceptualizes athletes' satisfaction and performance outcomes as dependent on the interaction between three antecedent characteristics and three leader behaviors. The antecedents are defined as: (a) situational characteristics (e.g., organizational rules and culture), (b) leader characteristics (e.g., ability to communicate), and (c) member characteristics (e.g., level of extraversion among members). The leader behaviors are described as: (a) required behavior (i.e., behaviors that conform to situation, and to the group and social norms), (b) actual behavior (i.e., exhibited behaviors based on the coaches' personality, experience, and ability), and (c) preferred behavior (i.e., athletes' preference of leadership style). According to Chelladurai's model, athlete satisfaction and peak performance is predicted to occur when there is congruence among the three types of leader behaviors. Incongruence between the three types of coaching behaviors can potentially result in a laissez-fair environment, detached coach, dissatisfaction with the sport experience, or diminished performance.

Chelladurai and Saleh (1980) introduced the Leadership Scale for Sports (LSS) to evaluate the factors that are salient for leadership behaviors. Based on a sample of 485 participants, the authors created an original pool of 99 items gathered from existing leadership scales. Their aim was to measure coach's decision-making, motivational behaviors, and instructive style in the sport setting. Conducting principal factor analysis (PFA) on the initial set of items, they identified a 40-item, five-factor solution and labeled the factors as: (a) training and instruction, (b) democratic behavior, (c) autocratic behavior, (d) social support, and (e) positive feedback.

Chelladurai and Saleh (1980) then applied a confirmatory factor analysis (CFA) of the proposed five-factor solution on two separate college-aged samples: (a) 102 physical education majors, and (b) 223 varsity athletes. As a rule-of-thumb, Haynes, Smith, and Hunsley (2011)

recommended that a CFA design should sample a minimum of 200 participants. The physical education sample does not meet this criteria and caution should be used when interpreting results from this piece of Chelladurai and Saleh's (1980) data analysis. It is important to note that the five-factor solution accounted for a limited proportion of the total variance in physical education students' preferences (41.2%), athletes' preferences (39.3%) and athletes' perceptions (55.8%). However, Chelladurai and Riemer (1998) reevaluated the construct validity of the LSS, and it was found that the five-factor structure had good fit to a sample of 217 collegiate football players with a .062 Root-Mean-Square Error of Approximation (RMSEA).

Recent empirical investigations into effective leadership styles in sport indicate that transformational leadership may also be a salient domain of the positive coaching construct (Callow et al., 2009; Charbonneau et al., 2001; Rowold, 2006; Smith, Arthur, Hardy, Callow, & Williams, 2013). Transformational leadership was first conceptualized by Burns (1978) as a leader who cares about their followers' needs, beliefs, attitudes, and values. The leader facilitates a relationship of mutual stimulation that empowers the followers to attain a higher level of motivation and morality. The role of the transformational leader is to identify a mission based on commonly-shared team values, communicate a long-term vision that inspires followers to commit and contribute to the mission, model how to contribute to team goals, and transform followers into future leaders. The culture created by a transformational leader challenges followers to strive toward excellence.

Bass (Bass, 1985; Bass & Avolio, 1990, 2005) and others (Avolio, Bass, & Jung, 1999) proposed and revised a theory of transformational leadership that extended the work by Burns (1978). Bass and Avolio (2005) presented a conceptual model, the Multifactor Leadership Questionnaire (MLQ-5X), to evaluate the transformational leadership theory. They confirmed

that the transformational leadership domain of their scale encompassed five dimensions: (a) idealized influence-attributes, (b) idealized influence-behaviors, (c) inspirational motivation, (d) intellectual stimulation, and (e) individualized consideration. Although Kirkbride (2006) concluded that the MLQ-5X is used most frequently to evaluate transformational leadership, several critiques of the transformational domain of the scale have been offered due to flaws in its conceptual framework (Charbonneau, 2004), questions around its structural validity (Densten & Sarros, 1997; Kelloway, Barling, & Helleur, 2000; Rafferty & Griffin, 2004), and concerns with its convergent and discriminant validity (Tepper & Percy, 1994; Carless, 1998).

Although few studies have assessed transformational leadership among sport coaches (Rowold, 2006; Yukl, 2002), the impetus for contemporary investigations on leadership theory in sport is derived from the rich tradition of theoretical and empirical research on transformational leadership that originated in organizational and military settings (Avolio et al., 1999; Barling, Weber, & Kelloway, 1996; Bass, 1985; 1999; Bass, Avolio, Jung, & Berson, 2003; Dvir, Eden, Avolio, Bass, & Shamir, 2002, Hardy et al., 2010; Howell & Avolio, 1993; Jung, Chow, & Wu, 2003; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). The existing studies on transformational leadership in sport are substantiating the positive findings on transformational leadership that were evidenced in occupational and organizational psychology (Charbonneau et al., 2001; Smith et al., 2013). Results indicate that transformational sport leaders are enhancing individual and group performance (Callow et al., 2009; Charbonneau et al., 2001; Rowold, 2006; Smith et al., 2013; Zacharatos, Barling, & Kelloway, 2000). Coaches and athletes perceive transformational leadership behaviors to be more effort-evoking, effective, and satisfying (Arthur et al., 2011; Charbonneau et al., 2001; Rowold, 2006). Transformational leadership has also been shown to foster team, social, and task cohesion (Callow et al., 2009; Smith et al., 2013).

Given the correlation between transformational leadership behavior and higher levels of performance and satisfaction, there has been an interest in exploring the mechanisms mediating this relationship. In sport settings, results suggest that intrinsic motivation mediated the relationship between transformational leadership and athlete performance (Charbonneau et al., 2001), and intrateam communication mediated the relationship between transformational leadership and task cohesion (Smith et al., 2013). In non-sport settings, there is evidence that transformational leadership produces favorable outcomes because leaders gain the trust of their followers (Barling et al., 1996; Braun, Peus, Weisweiler, & Frey, 2013; Podsakoff et al., 1990), inspire meaningful work (Arnold, Turner, Barling, Kelloway, & McKee, 2007), cultivate quality goals and enhance self-efficacy beliefs (Kirkpatrick & Locke, 1996), and increase affective commitment (Korek, Felfe, & Zaepernick-Rothe, 2010). More research is necessary to determine if these mediating variables found in non-sport domains are applicable to the sport setting.

Concerning the progression of transformational leadership research in sport within the last decade, the discipline of sport psychology has referenced the knowledge base on transformational leadership that was established in the fields of organizational and management psychology (Riemer, 2007). This interdisciplinary collaboration has impacted the theoretical and empirical evaluation of leadership styles in sport. Chelladurai (2009) has recently integrated transformational leadership within the MML theoretical framework. He suggested that transformational leaders present an organizational vision (e.g., philosophy, values, and goals) that affects situational and athlete characteristics. The vision communicated by the transformational leader influences the sport culture because the leader expresses confidence that members can adhere to the vision and achieve specified goals. Chelladurai concluded that

members then aspire to match the organizational values of the transformational leader, and members may feel increased self-efficacy from accomplishing the tasks associated with the goals.

Callow et al. (2009) adapted a sport-specific model of transformational leadership that draws upon six transformational behavior dimensions and one transactional behavior dimension of the Differentiated Transformational Leadership Inventory (DTLI) (Hardy et al., 2010). The six transformational behaviors include: (a) individual consideration, (b) inspirational motivation, (c) intellectual stimulation, (d) fostering acceptance of group goals and promoting teamwork, (e) high performance expectations, and (f) appropriate role modeling, whereas the transactional behavior is contingent reward. Findings from Callow et al. (2009) and Arthur et al. (2011) confirmed the factorial and discriminant validity of the seven-factor model of the DTLI within a sport setting.

Finally, Jowett and Ntoumanis (2004) developed a measurement, the Coach-Athlete Relationship Questionnaire (CART-Q), to evaluate if the coach-athlete relationship could be conceptualized by the relational factors of commitment, closeness, and complementarity. The researchers sampled British coaches and athletes to determine the extent to which the three interpersonal relationship factors were mutually and causally interrelated. The goodness-of-fit indexes suggested that the coach-athlete relationship may be adequately represented by two models: (a) a first-order three-factor model with closeness, commitment, and complementarity as independent dimensions, or (b) a hierarchical model with a global coach-athlete relationship factor and three first-order factors of closeness, commitment, and complementarity subsumed. Their results indicated that the three dimensions were correlated yet separate. The hierarchical model may be more parsimonious and replicable in independent samples as compared to the

first-order three factor model, but more research is required to validate this claim. A limitation of their study was a small sample size (N<250), which may affect the statistical power of the chi-square value to discriminate against good and poor fitting models (Kenny & McCoach, 2003).

Motivation

There also seems to be a strong association between concepts within motivation theory and the positive coaching construct. Self-determination theory (SDT) states that human motivation is mediated by the innate psychological need to satisfy a sense of autonomy, competence, and relatedness (Deci & Ryan, 2000). SDT suggests that social factors impact these three psychological needs. Positive social factors, such as supportive coaches and parents, can subsequently facilitate intrinsic motivation, enhance mental health, encourage social development, and aid in overall well-being (Deci & Ryan, 2000; Fredrick & Ryan, 1995; Ryan & Deci, 2000; Teixeira, Carraca, Markland, Silva, & Ryan, 2012).

Ryan and Deci (2000) concluded that "no single phenomenon reflects the positive potential of human nature as much as intrinsic motivation" (p. 70). Intrinsic motivation is vital to sport settings, as it has been associated with sustained exercise adherence (Teixeira et al., 2012), mastery (Csikszentmihalyi & Rathunde, 1993), and enjoyment and vitality throughout the lifespan (Ryan, 1995). Ryan and Deci (2000) expressed the imperative that intrinsic motivation is maintained and enhanced through specific supportive social conditions.

Vallerand and Losier (1999) created a hierarchical model that used SDT to conceptualize the interaction between social factors, psychological mediators, motivation, and consequences. Within the hierarchical model, social factors influenced the psychological mediators of autonomy, competence, and relatedness. In turn, the psychological mediators affected motivation, and motivation led to consequences. The model hypothesized that social conditions,

such as experiences of past success/failure, a competitive versus cooperative sport climate, and coaches' behaviors, directly affect an athlete's self-perceptions of competence, autonomy, and relatedness. Coaching behavior, therefore, was identified as a powerful mediator that influences intrinsic motivation. As intrinsic motivation has been shown to increase persistence and encourage sportspersonship (Vallerand & Losier, 1999), coaching behavior that can foster intrinsic motivation is likely to empower athletes toward optimal functioning, social development, and well-being (Ryan & Deci, 2000).

Positive Psychology

The last theoretical foundation that informs the hypothetical positive sport coaching construct comes from the literature within positive psychology. Of the many theories of human nature outlined within the history of psychology, positive psychology is the newer kid on the block. The pioneers of positive psychology have attempted to elbow their way into a field that has largely ignored human strengths since psychology first established itself as a credible discipline (Baumgardner & Crothers, 2009; Biswas-Diener, 2013; Snyder et al., 2011). Positive psychology, therefore, can be seen as a theoretical countermovement against the disease model that has dominated psychology (Seligman, 2003).

Early theories within psychology helped to conceptualize pieces of the human nature puzzle, but in many ways, its early theories have had an unbalanced view of the total human experience (Snyder et al., 2011). Many of these theories started with the basic question: What brings about human dysfunction? The focus on human weakness and pathology drove the field into efforts to design treatments and interventions to make better the things that seemed to be broken, bad, or different within people. One of the effects of this focus on psychopathology is that psychology has been able to identify, conceptualize, and alleviate some of the cognitive,

emotional, and social maladies that have negatively impacted human functioning. However, a major blind spot of a disease-based model is that it misses a valuable component to the human experience: human strengths.

The study of optimal human functioning predates the creation of positive psychology as a sub-discipline within psychology (Biswas-Diener, 2013). While the growth of positive psychology as a scientific discipline may largely be attributed to Martin Seligman (Baumgardner & Crothers, 2009; Biswas-Diener, 2013; Snyder et al., 2011), various aspects of human well-being have been described, defined, and studied in times and cultures that preceded Seligman's popularization of positive psychology in his 1998 address to the American Psychological Association (Biswas-Diener, 2013).

Positive psychology may be new to the field of psychology, but its concepts are not new to philosophy and religion (Biswas-Diener, 2013). Before the rise of contemporary positive psychology, the study of optimal human functioning has been explored within philosophy movements and religious traditions (Peterson, 2006). The purpose of these movements and traditions was guided by the ideal that identifying the positive aspects of living allowed society and its citizens the opportunity to pursue a moral and virtuous life. Philosophers and religious leaders across many different centuries have asked and attempted to answer the question of what makes life good, moral, and virtuous (Biswas-Diener, 2013; Peterson, 2006; Snyder et al., 2011). Concepts such as happiness, well-being, courage, altruism, love, flourishing, resilience, self-regulation, self-esteem, and optimism are found in the writings and teachings of great historical thinkers (Peterson, 2006). As a result, positive psychologists are formulating scientific understanding and effective interventions for healthy, optimal human functioning from ideas that

were generated by previous civilizations, world philosophies, and religious doctrines (Dahlsgaard, Peterson, & Seligman, 2005).

Dahlsgaard et al. (2005) examined the development of shared virtues and human strengths across culture and history. The authors read through philosophical and religious texts to better understand how ancient philosophers and religious leaders have conceptualized human morality and virtuosity. The authors limited their research on human virtues to the world philosophies developed in China, South Asia, and the West, as those locations were identified by Smart (1999) as having the most enduring impact on the delineation of human virtues. Dahlsgaard et al. (2005) concluded that there was a cross-cultural convergence of six core human virtues within the Eastern and Western ideological traditions: (1) courage, (2) justice, (3) humanity, (4) temperance, (5) wisdom, and (6) transcendence. Although the authors did not have the time or resources for an exhaustive cross-cultural analysis of human virtues across time, place, and intellectual tradition, they were able to hypothesize a "consensual classification of human strengths" based on the predominant Eastern and Western philosophies of the last two thousand years (Dahlsgaard et al., 2005, p. 210). Eastern and Western philosophical and religious doctrines formed the template that future positive psychologists work from today.

Dahlsgaard at al. (2005) reviewed the ideological influence of Chinese philosophical and religious traditions on positive psychology. The authors focused their efforts on the teachings of Confucianism and Taoism. The core virtues found to be essential to Confucianism include: (1) jen (humanity, human heartedness, or benevolence), (2) yi (duty, justice, or equity), (3) li (etiquette or observance of the rites of ceremonious behavior), (4) zhi (wisdom or perspicacity), and (5) xin (truthfulness, sincerity, or good faith). Jing (2007) suggested that the principles of Confucianism may be applied successfully into psychology, and more specifically, into the

counseling psychology experience. He advocated that Confucianism provides strategies for reaching an optimal state of living. Confucianism may enlighten the meaning of life, provide insight into stress coping, assist in grief counseling, inform self-regulation, instruct ways to build interpersonal and social skills, and facilitate healthy personality development (Jing, 2007).

Lao Tzu, the creator of Taoism, postulated that the aspiration of human living is transcendence of the *Tao*, or Way (Dahlsgaard et al., 2005). Dahlsgaard et al. (2005) articulated that an important teaching of Taoism is the principle of naturalness, or the virtue of being without effort. Humanity, justice, and propriety are believed to arise from living in harmony with the Tao (Dahlsgaard et al., 2005). Hermsen (1996) hypothesized a connection between Taoist virtues and psychotherapy. He indicated that the founder of person-centered psychology, Carl Rogers, referred to Taoism in Roger's (1961) book *On Becoming a Person*. While Hermsen (1996) stated that Rogers did not give credit to Taoism for influencing the theoretical underpinnings of person-centered therapy, Hermsen inferred there to be a relationship and overlap between Rogers approach to therapy and some of the virtues defined within Taoism. Rogers was a key-contributor and well-known figure within humanistic psychology, and humanistic psychology has been cited as a formative theory in the later development of positive psychology (Peterson, 2006). Accordingly, one could arguably link Taoism to positive psychology through the influence that Taoism had on Rogers.

Dahlsgaard et al. (2005) identified the Buddhist teachings, originating in South Asia, as a philosophical and religious tradition that has also contributed to contemporary positive psychology thought. The Buddha created and preached the Holy Eightfold Path, which is a compass for guiding human behavior in the areas of: (1) understanding, (2) thinking, (3) speech, (4) action, (5) livelihood, (6) effort, (7) mindfulness, and (8) concentration (Dahlsgaard et al.,

2005). These teachings are a spiritual map for reaching the state of nirvana, or enlightenment (Dahlsgaard et al., 2005; Snyder et al., 2011). The fundamental methods for reaching a state of nirvana are the practices of loving-kindness, empathic compassion, and shared joy (Kwee, 2012). Positive psychology interventions intended to increase happiness and well-being have tapped into the practices of loving-kindness (i.e., gratitude letters), empathic compassion (i.e., altruism activities), and shared joy (i.e., kindness history) (Biswas-Diener, 2013; Peterson, 2006). Within these teachings, the Buddha articulates four Universal Virtues: (1) benevolence, (2) compassion, (3) joy, and (4) equanimity. To attain these virtues, humans must learn how to "divorce themselves from the human emotion of desire to put an end to suffering" (Snyder et al., 2011, p. 25).

Hinduism is another religious movement of South Asia that is proposed to interface with the positive psychology movement (Dahlsgaard et al., 2005). The Hindu sacred text, the Bhagavad Gita (Thadani, 1990), articulates that a member of society is said to have a set of characteristic virtues according to the caste, or societal location, that the member is born into (Dahlsgaard et al., 2005). The Hindu tradition encourages the interconnectedness of all things (Snyder et al., 2011), as Hinduism values harmony and being good to others. Given the investment in others well-being, this tradition seems to inspire prosocial behaviors. One who values being good to others may find more meaning in establishing positive interpersonal relationships; thus, one may be more likely to be empathic, altruistic, gracious, and forgiving. Hinduism asserts the personal virtues of self-denial and renunciation as the means for attaining self-improvement and potential salvation in the next life (Dahlsgaard et al., 2005). The purpose is to gain self-knowledge, immerse oneself in truthful and whole-hearted living, and as reward, one does not have to go through a process of reincarnation. If one does not follow these

guidelines, then that person returns to life on a quest to better understand one's self (Snyder et al., 2011).

In Western traditions, Dahlsgaard et al. (2005) pointed to Athenian philosophy, Christianity, and Islam as significant contributors to defining human virtues. The philosophers from Ancient Greece, Aristotle and Plato, are often cited as the key contributors to ideas on morality and virtue. According to Plato, the four virtues of wisdom, courage, self-restraint, and justice are located in the human soul and reflect virtues of citizenship (Dahlsgaard et al., 2005). Aristotle, being heavily influenced by the earlier work of Plato, proposed that intellectual and moral virtues determine one's strength of character (Snyder et al., 2011). The eleven moral virtues outlined in Aristotle's Nichomachean Ethics include: (1) courage, (2) moderation, (3) generosity, (4) munificence, (5) magnificence, (6) even temper, (7) friendliness, (8) truthfulness, (9) wit, (10) justice, and (11) friendship (Biswas-Diener, 2013; Snyder et al., 2011; Solomon, 2006). He believed that the expression of these character strengths would result in the attainment of human excellence and rejection of hedonistic desires (Snyder et al., 2011). Happiness would subsequently arise when one can live in congruence with the virtues, can experience pleasant feelings, and can access material resources (Biswas-Diener, 2013). Both Aristotle and Plato reference the importance of the political community, or polis, as principle to fostering human excellence and self-actualization (Biswas-Diener, 2013; Snyder et al., 2011). Aristotle articulated that studying the good in human beings is intertwined with an investigation of political ethics because "the theory of well-being and excellent activity" is rooted within the virtue of justice (Kraut, 2002, p.5).

The Western monotheistic religions of Judaism and Christianity provide teachings that constitute good living practices and positive character traits (Biswas-Diener, 2013). The Ten

Commandments and Proverbs of the Jewish Bible prescribe personal virtues as defined by God. According to the Jewish Bible, God directed Moses to share these Commandments and Proverbs with the Jewish people as a means to contrast honorable and righteous behaviors with forbidden, ungodly behaviors (Dahlsgaard et al., 2005; Snyder et al., 2011). By protecting one's heart, mind, and behaviors from the sins described in the commandments, one can live a life of justice, temperance, and transcendence (Dahlsgaard et al., 2005; Peterson & Seligman, 2004). The foundation of moral living within the Christian faith is influenced by the Jewish Old Testament and the parables preached by Jesus in the New Testament. The Book of Romans and Book of Proverbs specify human strengths that are cherished by God, while the Beatitudes outlined in the Book of Matthew are a description of virtuous traits (Snyder et al., 2011). Beatitudes are intended to provide meaning to one's life by offering a template for fortunate, happy, and blissful living (Forest, 1999). St. Thomas Aquinas, a devote follower of Christianity, argued for seven heavenly virtues (Dahlsgaard et al., 2011; Peterson & Seligman, 2004; Snyder et al., 2011). Although Aristotle is considered to be a pagan within the Christian religion, Aquinas's virtues were developed from Aristotle's ideology on human morality (Dahlsgaard et al., 2011). Aquinas advocated that the virtues were hierarchical in nature; the transcendent values of charity, faith, and hope were appraised to be more important than the four cardinal virtues of wisdom, justice, temperance, and fortitude (Dahlsgaard et al., 2011).

The Islamic belief system originated from teachings that the Prophet Muhammad learned through revelations from the angel Gabriel. The religious text of the Islamic faith, the Koran, offers a philosophy for transcendent living based on the appreciation for the divine law (Mahdi, 2001). While Islam shares some values of morality similar to Judaism and Christianity, a distinctive characteristic of the Islamic faith is the philosophical parallelism to Greek thought

(Dunlop, 1971). The prominent Islamic philosopher, Alfarabi, was renowned as a logician and metaphysicist whose writings echoed the Aristotelian emphasis on the role of the government to nourish an individual's soul (Dahlsgaard et al., 2011). Alfarabi also referenced the split soul that was first defined within Athenian thought, as Alfarabi believed in the personal virtue of contemplation and the social virtue of duty to others (Dahlsgaard et al., 2011). Shah (2005) suggested that the Islamic faith differs from other Western-based philosophies that emphasize liberalization and self-actualization. Islamic principles endorse self-restraint and self-realization. Furthermore, there is a premium on the pursuit of family and social bonds over individuality and self-concern.

Positive psychology materialized as a formal branch within psychology after Seligman's presidential address to the American Psychological Association in 1998, as he advocated for the study of human strengths (Baumgardner & Crothers, 2009; Biswas-Diener, 2013). Seligman's call to action ushered in a new wave of optimism around studying healthy and optimal human functioning (Baumgardner & Crothers, 2009). He essentially used his power as an APA president to popularize positive psychology as a scientific sub-discipline in psychology. Soon after his speech, the first Positive Psychology Summit was held in Washington, D.C. in 1999, a Positive Psychology Center was formed at the University of Pennsylvania, the *American Psychologist* covered a special issue on positive psychology in 2000, and the first International Psychology Conference convened in 2002 (Linley, Joseph, Harrington, & Wood, 2006; Seligman & Csikzentmihalyi, 2000; Simonton & Baumeister, 2005).

Seligman and Csikszentmihalyi (2000) subsequently framed the pillars of positive psychology that distinguishes its theoretical framework. The theory of positive psychology is interested in positive subjective experiences, positive individual traits, and positive institutions.

In essence, positive psychology's empirical foundation is motivated to answer a question that the field of psychology has failed to address previously: What makes life good?

The emergence of positive sport coaching, which is firmly rooted in the positive psychology paradigm, is a reaction against leadership styles and coaching behaviors that inhibit the psychoemotional, social, cognitive, and physical development of athletes (McGuire, 2012). Coaches often engage in verbal aggression as a means to motivate. Yet, coaching by way of aggression can produce negative consequences. Findings from Ruggiero and Lattin (2008) highlighted that insults, threats, and attacks on self-concept, athletic skill, and motivation level were counterproductive to increasing motivation. Bredemeier (1994) postulated a theory of moral reasoning and aggression that hypothesized why overt acts of aggression are encouraged, and occur frequently, in sport. The level of morality that is required and expected of us in our normal, everyday activities can be suspended during competitive sports. This phenomenon, labeled as bracketed morality, legitimizes physical displays of aggression as acceptable behaviors in the sport-specific experience. Kassing and Infante (1999) similarly observed the effects of an aggressive coaching style on the athlete's sport experience. They found that coaches who demonstrated verbally and physically aggressive tactics coincided with lower scores on player satisfaction ratings, reduced team success as measured by win-loss percentage, and fewer displays of sportspersonship behaviors.

The purpose of positive sport coaching is to explicitly recognize and encourage strengths rather than weaknesses (Biswas-Diener & Dean, 2007; Kauffman, 2006; Seligman, 2011; Snyder et al., 2011). Positive coaching does not ignore the benefits that can result from a focus on improving psychoemotional and physical deficits (Kauffman, 2006). Research provides evidence that overemphasizing positivity may be counterproductive to high levels of

achievement (Fredrickson & Losada, 2005). Frederickson and Losada (2005) investigated the optimal ratio for giving positive feedback. They determined that the positive to negative feedback ratio should not exceed 12:1. It was recommended that coaches do not surpass this upper limit of positive feedback, as it may result in rigid and unresponsive behaviors (Frederickson & Losada, 2005). While weaknesses are not blindly overlooked within the positive coaching approach, the data on positive feedback suggests that building on strengths is a more effective coaching technique for helping one attain optimal human functioning (Biswas-Diener & Dean, 2007). Linley and Harrington (2006) concluded that the strengths approach to coaching is self-sustaining, as it encourages the recipient of this coaching style to engage and persist in an activity over time.

Extrapolating from the empirical and theoretical findings in positive psychology, a positive sport coach may be defined as someone who provides feedback on athletes' assets (Linley & Harrington, 2006), fosters positive emotional and psychological states (Snyder et al., 2011), cultivates hope by motivating athletes to identify and attain desired goals (Snyder, Rand, & Sigmon, 2002), engages athletes in meaningful relationships (Seligman, 2011; Snyder et al., 2011), encourages prosocial behaviors (Snyder et al., 2011), and provides a motivational sport environment wherein athletes can flourish and attain mastery (Csikszentmihalyi, 1990; Seligman, 2011; Jackson et al., 2001). These psychosocial coaching behaviors set the stage for athletes to reach and maintain optimal performance, gain a sense of self-efficacy, and increase the likelihood of living well (Deci & Ryan, 2000; Ryan & Deci, 2000; Seligman, 2011).

Study Purpose: Extrapolation and Extension of the Positive Sport Coaching Construct

Positive sport coaching appears to be a multidimensional construct nested within the theoretical frameworks of: (a) coaching leadership and relational style (Arthur, Woodman, Ong,

Hardy, Ntoumanis, 2011; Callow et al., 2009; Chelladurai, 1978, 1993, 2001; Jowett & Lavallee, 2007; Jowett et al., 2005; Rowold, 2006), (b) motivation (Deci & Ryan, 1985, 1991, 2000; Fiedler, 1967; Ryan & Deci, 2000), and (c) positive psychology (Biswas-Diener & Dean, 2007; Gordon & Guicciardi, 2011; Kauffman, 2006; Kauffman et al., 2009; Kauffman & Linley, 2007; Linley & Kauffman, 2007; Salama-Younes, 2011). Moreover, the purpose of positive sport coaching is to identify strategies that promote the holistic development of sport participants (McGuire, 2012; Salama-Younes, 2011).

To accomplish this goal, one must first understand the various roles that coaches assume, and how those roles influence athletes. Positive coaches use their leadership style to teach and model appropriate, ethical, and successful ways of training and performing in the sport environment (McGuire, 2012; Vernacchia et al., 1996). The coach-athlete relationship has been shown to be a vital factor in the identity development of the athlete as a sport performer (Jowett et al., 2005). The interpersonal relationship formed between the coach and player can also extend beyond athletic identity formation, as the coach may have a significant influence on the athlete's personal and social development (Côté & Salmela, 1996). The literature on motivation has documented that coaching behavior impacts an athlete's autonomy, competence, and relatedness, which in turn, affects the athlete's intrinsic motivation (Deci & Ryan, 2000; Ryan & Deci, 2000; Vallerand & Losier, 1999). Furthermore, recent attention among coaches and sport psychologists suggests the benefits of integrating the theoretical, empirical, and applied interventions of positive psychology into coaching training models (Gordon & Gucciardi, 2011; McGuire, 2012; Salama-Younes, 2011).

In summary, the present study intends to design a psychometrically sound measurement, the positive coaching inventory (PCI), which can assess the positive coaching construct that has

recently surfaced in the sport and positive psychology literature. Given that positive coaching appears to be a multidimensional construct derived from theory on leadership and relational style, motivation, and positive psychology, items on the PCI will be created to reflect the germane theory from these three domains. Psychometric tests of the reliability, validity, and factor structure of the positive coaching inventory (PCI) will be included. Results and limitations of the PCI will be reviewed. Implications and recommendations for how the PCI affects coaching research and practice will also be discussed.

Research Questions and Hypotheses

The purpose of this scale development study was to assess the factor structure and internal consistency of the PCI. Specifically, the objective was to ascertain the number of latent constructs underlying the set of items on the PCI and to examine the factor patterns of the latent constructs in order to characterize and label their conceptual meanings (Suhr, 2006). All research questions and hypotheses are summarized below:

Question 1: What is the underlying factor structure of the positive coaching construct?

Hypothesis 1a: The items generated on the PCI will reflect the domains of leadership and relational style, motivation, and positive psychology.

Hypothesis 1b: All of the factor loadings will be significant, suggesting that the factors are well-represented by the items on the PCI.

Question 2: Does the PCI evidence adequate internal consistency?

Hypothesis 2a: The instrument's items will emerge internally consistent.

Hypothesis 2b: The instrument's factors will emerge as correlated but distinct constructs.

Chapter II

Method

Development of the Positive Coaching Inventory (PCI) is informed by the guidelines for scale construction of a multidimensional sport construct outlined by Gill, Dzewaltowski, and Deeter (1988). Gill et al. (1988) established a process for developing a psychometrically sound multidimensional scale in the sport and exercise research. They indicated that the approach for creating the scale and assessing its construct validity should include: (a) creating items based on theory, (b) analyzing the items and evaluating the reliability, (c) conducting an exploratory factor analysis (EFA) or a confirmatory factor analysis (CFA), (d) testing for convergent and discriminant validity, and (e) providing a rationale on how it should be applied into research and practice.

The process for designing the PCI and assessing its psychometric properties included three phases. The first phase involved developing items from the sport and positive psychology literature that appeared to be empirically and theoretically connected to the positive coaching construct. The author also consulted with researchers who provided feedback on the content validity of the items. In the second phase, a pilot study was conducted to assess the comprehensibility of items and gauge the approximate length of time to complete the inventory. The third phase included calculating reliability estimates and using an EFA to investigate the factor structure of the PCI.

Although not included in this present study, the next steps of the scale construction project will consist of examining the convergent and discriminant validity of the PCI, as well testing its temporal stability over a four-week period. Specific instruments for assessing construct validity will include the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980),

Differentiated Transformational Leadership Inventory (DTLI; Hardy et al., 2010); Coach-Athlete Relationship Questionnaire (CART-Q; Jowett & Ntoumanis, 2004), and Basic Psychological Needs in Exercise Scale (BPNES; Vlachopoulos & Michailidou, 2006).

Item Development

Items on the scale were created from the extant literature on: (a) leadership and relational style (Arthur et al., 2011; Bass & Avolio, 2000; Callow et al., 2009; Chelladurai, 1978, 1993, 2001; Chelladurai & Saleh, 1980; Jowett & Lavallee, 2007; Jowett & Ntoumanis, 2004, Jowett et al., 2005; Rowold, 2006), (b) motivation (Deci & Ryan, 2000; Ryan & Deci, 2000), and (c) positive psychology (Biswas-Diener & Dean, 2007; Kauffman, 2006; Seligman, 2011; Snyder et al., 2002; Snyder et al., 2011). An initial set of items were formed to fit within the three theoretical frameworks. It was hypothesized that oversampling of items from these theoretical frameworks was necessary to explore the pattern that may exist between the items.

Eighteen items were created to address the leadership and relational style dimension. Theoretical and empirical findings indicate that the leadership and relational style of the coach shapes the coach-athlete relationship (Jowett & Lavallee, 2007), influences the athlete's sport experience (Jowett et al., 2005), and affects outcome performance (Bird, 1977). A coach's leadership style may be seen as a relevant dimension of the positive coaching construct given that positive leadership behaviors may build an athlete's self-esteem and self-worth (Thompson, 1995), deepen an athlete's emotional intelligence (Thompson, 2003), inspire athletes to strive toward excellence (McGuire, 2012; Vernacchia et al., 1996) cultivate athlete's mental toughness (Gordon & Gucciardi, 2011), and facilitate team cohesion (Callow et al., 2009; Vernacchia et al., 1996).

Eighteen items were also developed to assess if the coach's behavior is indicative of facilitating: (a) autonomy, (b) competence, and (c) relatedness. SDT posits that coaching behavior influences an athlete's autonomy, competence, and relatedness (Vallerand & Losier, 1999). Consequently, it has been found that a coach who can satisfy an athlete's basic psychological needs of autonomy, competence, and relatedness promotes beneficial affective, cognitive, and behavioral outcomes (Coatsworth & Conroy, 2009; Fredrick & Ryan, 1995; Gillet, Vallerand, Amoura, & Baldes, 2010; Ryan & Deci, 2000; Teixeira et al., 2012). Substantial evidence supports that fulfillment of these three psychological needs leads to intrinsic motivation (Vallerand & Losier, 1999), sustained and enhanced performance (Csikszentmihalyi & Rathunde, 1993; Teixeira et al., 2012), initiative goal setting and identity reflection (Coatsworth & Conroy, 2009), increased global self-esteem (Coatsworth & Conroy, 2009; Deci & Ryan, 1995), stronger social connections (Ryan & Deci, 2000) and improved subjective well-being (Ryan, Deci, & Grolnick, 1995). These positive outcomes reinforce a greater sense of interest, enjoyment, satisfaction, and persistence in the sport and exercise environment (Frederick-Recascino, 2002).

Finally, eighteen items were designed to measure if the empirically-based phenomena of positive psychology is a theoretically meaningful category of the positive sport coaching construct. A contemporary focus among coaches and sport psychologists has been the inclusion of positive psychology principles into coach training models (Gordon & Gucciardi, 2011; McGuire, 2012; Salama-Younes, 2011). In non-sport settings, researchers have concluded that encouraging individuals to identify and use their strengths can cultivate happiness and well-being (Govindji & Linley, 2007), decrease stress and depression (Linley et al. 2010; Seligman, Steen, Park, & Peterson, 2005), increase self-efficacy and self-esteem (Govindji & Linley, 2007;

Minhas, 2010), and enhance life satisfaction (Park, Peterson, & Seligman, 2004). Prompting individuals to use signature strengths has also been shown to facilitate work engagement and persistence, support resilient behaviors, inspire goal attainment, cultivate hope and optimism, and maximize performance (Kauffman, 2006). Given that positive psychology appears to be a theoretically salient dimension to the positive sport coaching construct, items will be developed from the following positive psychology principles: (a) strengths-based feedback, (b) positive psychological states, (c) positive emotional states, (d) cultivating hope, (e) engagement in meaningful relationships, (f) prosocial behaviors, and (g) flourishing.

Scaling Method. Development of the scale indicators and response format for the PCI is based on the scale construction recommendations by Dawis (1987). According to Dawis, a Likert scale, which is a subject-centered scale method, is appropriate for determining individual differences among responses. When filling out the PCI, the participants were asked to: "Think about the following questions as it relates to how you most want to be coached." The participants then responded to the items on the PCI using a 5-point Likert-type response format (1 = *strongly disagree* to 5 = *strongly agree*). The prompt and response scale were intended to measure the athlete's direct self-perceptions of ideal coaching behaviors that encourage optimal physical, psycho-emotional, and social functioning.

Content Validity. The author originally generated a pool of 70 items (see Appendix B) to oversample from the three theoretically germane dimensions of positive coaching: (a) leadership and relational style, (b) motivation, and (c) positive psychology. Before administering the PCI, these 70 items were independently assessed by eight researchers who have extensive content knowledge of the sport psychology and positive psychology literature. The evaluators rated the content validity of the items based on a scale from 1-5 (1 = bad;

5=great). The evaluators were asked to appraise the perceived quality and relevancy of the items to encapsulate the proposed domains. Evaluators also provided feedback on the clarity of the items with a dichotomous "Yes-No" scale. Lastly, evaluators were asked to consider if additional items needed to be created to better reflect the hypothesized domains.

Based on the feedback from evaluators, an item was retained if: (a) it was rated as being strongly associated with the chosen domain, and (b) it was comprehensible. Items that were marked as confusing, ambiguous, or irrelevant (i.e., rated below 2, or labeled with a "No" in terms of clarity) were revised and/or replaced by the author. A total of 54 items (see Appendix C) were retained with 18 items theoretically belonging to each of the three domains. The consensus among the raters was that the 54 items adequately captured the three domains, and it was determined that supplementing the PCI with additional items was unnecessary.

Instruments for Assessing Convergent and Discriminant Validity

LSS. The LSS designed by Chelladurai and Saleh (1980) is a 40-item self-report measure with five subscales assessing the dimensions of leadership behavior in sport: (a) autocratic (five items), (b) democratic (nine items), (c) training and instruction (13 items), (d) positive feedback (five items), and (e) social support (eight items). Responses to items are given by rating each statement on a 5-point Likert scale from 1 (*always*) to 5 (*never*). Internal consistency for the five dimensions ranged from .45 (autocratic behavior) to .92 (positive feedback), which raised some concerns with items on the autocratic behavior dimension (Chelladurai & Carron, 1981; Chelladurai & Riemer, 1998; Chelladurai & Saleh, 1980). High reliability estimates have been supported for the subscales in independent samples of elite athletes (Fletcher & Roberts, 2013) and youth athletes (Turman, 2003). Using a four-week test-retest design, reliability coefficients demonstrated satisfactory temporal stability of the subscales

as scores ranged from .71 (social support) to .82(democratic behavior) (Chelladurai & Saleh, 1980). Factor loadings for the 40-item LSS were appropriate for three of the five factors within the physical education sample (.33-.74), but weak factor loadings (below .30) were present on four items on the training and instruction factor and one item on the social support factor. Within the varsity athlete sample, factor loadings were satisfactory for items on four of the five factors (.31-.75) with only one item having a weak factor loading (.19) on the social support factor. The athletes' perception version of the LSS is being used over the preference version given that the perception version demonstrated superior reliability and validity (Chelladurai & Riemer, 1998; Chelladurai & Saleh, 1980).

DTLI. Callow et al.'s (2009) sport-specific version of the DTLI was modified from a transformational leadership scale created by Hardy et al. (2010). It represents a revision of the MLQ-5X (Bass & Avolio, 2000) and Transformational Leadership Inventory (TLI; Podsakoff et al. 1990). Callow et al.'s (2009) DTLI consists of 27-items and seven subscales. Individual consideration (four items; e.g., "Helps team members to develop their strengths"), inspirational motivation (four items; e.g., "Talks optimistically"), intellectual stimulation (four items; e.g., "Gets me to re-think the way I do things"), fostering acceptance of group goals and promoting teamwork (three items; e.g., "Encourages me to be a team player"), high performance expectations (four items; e.g., "Will not settle for second best"), and appropriate role model (four items; e.g., "Leads by example") comprise the transformational leadership behavior dimension. Items representing contingent reward, a transactional behavior dimension, were included in this study given that these items reflect strengths-based feedback (four items; e.g., "Always recognizes our achievements"). The items were assigned a score ranging from 1 (*not at all*) to 5 (*all of the time*). Factor loadings for all of the items were satisfactory ranging from .53 to .86.

Estimates of internal consistency were good for six of the subscales (.75 - .86), except for individual consideration which had a questionable alpha coefficient of .66. Arthur et al. (2011) raised concerns for the factor loadings for an item on the individual consideration scale (.35, $p < .01$) and high performance expectation scale (.27 $p < .01$), and they noted problematic coefficient alphas for individual consideration (.64) and high performance expectation (.68). Callow et al. (2009) found evidence for discriminant validity between high and low performance, and they noted that the CTI predicted a significant portion of the variance in task cohesion and social cohesion. There have been mixed findings on the model fit for the CTI. Callow et al. (2009) reported good model fit for the seven subscales ($\chi2 = 499.1$, $\chi2/df = 1.80$, SRMR = 0.06, CFI = 0.98, NNFI = 0.98, RMSEA = 0.05). However, a recent factorial study by Vella, Oades, and Crowe (2012) concluded that the DTLI failed to satisfy the cut-off criteria for adequate model fit within a youth soccer sample.

CART-Q. The direct-perspective version of the CART-Q, a short 11-item self-report instrument created by Jowett and Ntoumanis (2004), evaluates an athlete's perceptions of the coach-athlete relationship. Questions ask athletes to appraise the relational quality by responding to the level of closeness (four items; e.g., "I trust my coach"), commitment (three items; e.g., "I feel that my sport career is promising with my coach") and complementarity (four items; e.g., "When I am coached by my coach, I am ready to do my best"). Items are scored on a 7-point Likert scale anchored from 1 (*strongly disagree*) to 7 (*strongly agree*). The CART-Q showed strong internal consistency for the three factors: (a) commitment ($\alpha = .82$), (b) closeness ($\alpha = .87$), and (c) complementarity ($\alpha = .88$). The factor loadings were high and statistically significant, from .68 to .90, for each of the items in the hypothesized domains. Subsequent findings by Jowett and Chaundy (2004) supported the high alpha coefficients (ranging from .79

to .88) for the three factors within a college student-athlete population. Criterion validity was also assessed by investigating the ability of both models to predict the outcome variable of relationship satisfaction. Path coefficients demonstrated that the hierarchical model significantly predicted relationship satisfaction ($\beta = .89$, $p < .01$). Whereas in the first-order three factor model, relationship satisfaction was significantly predicted by closeness ($\beta = .37$, $p < .01$) and complementarity ($\beta = .36$, $p < .01$) but not by commitment ($\beta = .20 > .05$). Yang and Jowett (2012) concluded that the CART-Q was a culturally sensitive assessment, as they found it be psychometrically reliable and valid within athlete populations across seven different countries.

BPNES. The English version of the BPNES (Vlachopoulos & Michailidou, 2006) is an 11-item assessment that measures the constructs of autonomy, competence, and relatedness defined within self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000). The 11 items were divided into three subscales: (a) autonomy (four items; e.g., "The way I exercise is in agreement with my choices and interests"), (b) competence (four items; e.g., "I feel exercise is an activity which I do very well"), and (d) relatedness (three items; e.g., "I feel I have excellent communication with the people I exercise with"). The original Greek version of the BPNES included 12 items with four items on each of the three subscales. Whereas, the translated English version dropped one item on the relatedness subscale due to a high-cross loading that significantly reduced model fit. The BPNES evaluates the degree to which these three innate psychological needs are fulfilled through exercise. A 5-point Likert scale is used to score items with the responses anchored from 1 (*I don't agree at all*) to 5 (*I completely agree*). Results from the chi-square difference tests and goodness-of-fit indexes from the CFA maintained a three-factor structure ($\chi2 = 360.44$, $p < .05$, SRMR = 0.062, CFI = 0.967, NNFI = 0.966, RMSEA = 0.043). Factor loadings for items on the BPNES were satisfactory, as they ranged from .60 to

.91. Coefficient alpha estimates showed good-to-excellent internal consistency with alpha values ranging from .84 (autonomy) to .92 (relatedness), and the test-retest stability was excellent for all three subscales over a four-week period (ICC = .97). The discriminant and predictive validity of the BPNES has been established (Vlachopoulos & Michailidou, 2006), as well as follow-up studies confirmed its nomological and cross-cultural validity (Vlachopoulos, Ntoumanis, & Smith, 2010; Moutão, Serra, Alves, Leitão, & Vlachopoulos, 2012).

Participants

Athletes were selected as participants for this study rather than coaches given that it would likely reduce the risk of social desirability bias. Coaches may respond to questions about their coaching style in a manner that projects a more socially acceptable or favorable image than is true of their actual coaching style. This social desirability bias would increase the probability of respondent-related sources of error because coaches may over-report socially desirable coaching behaviors and underreport socially undesirable coaching behaviors (Callegaro, 2008). Since the items on the PCI ask for how the athlete prefers to be coached, the questions are assessing the athlete's perception of desired coaching traits. Athletes will have less motivation to provide socially desirable answers because the questions are not asking athlete's to evaluate their own personality traits. Therefore, it was anticipated that there would be less response bias when surveying athletes about the positive coaching construct.

Pilot Study Participants. A pilot study was conducted using the initial 54-item version of the PCI within a small sample of high school athletes (N = 15). The participants were recruited from an urban high school located in a large Midwestern city. The site for data collection was chosen based on personal contacts between the collection site and the author. The purpose of the pilot study was to assess the approximate length of time to complete the

inventory, ask for oral and written feedback on the clarity of questions, and revise problematic items. If an item was deemed as confusing by participants in the pilot-test, then the author would review the suggestion with the team of researchers to determine if it was necessary to delete or refine the problem item. Average length of time to complete the PCI was 5.5 minutes. Oral and written feedback from the 15 participants suggested that all of the 54 items were clear and concise, as no participant reported difficulties with comprehending the items on the PCI.

EFA Sample Size. Worthington and Whittaker (2007) argued that it is critical to set a minimum sample size before starting scale development research. Rules of thumb to determine adequate sample sizes in an EFA have varied greatly because researchers have offered different opinions on the suitable sample to variable ratio (Williams, Onsman, & Brown, 2010), and there have been conflicting recommendations on the magnitude of absolute sample sizes (Worthington & Whittaker, 2007). Williams et al. (2010) observed that the participant per-item ratios suggested by researchers vary from 3:1, 6:1, 10:1, 15:1, and 20:1. Worthington and Whittaker (2007) found that the absolute sample sizes endorsed by researchers has ranged from 84 to 411.

Some researchers have even advised against strict adherence to a rules of thumb approach given that the minimal sample size for an EFA is discovered after the completion of data analysis (Cabrera-Nguyen, 2010; Henson & Roberts, 2006). In reviewing the conditions necessary to yield quality results for an EFA, de Winter, Dodou, and Wieringa (2009) further asserted that absolute thresholds for a minimum sample size do not exist. Best practices in conducting factor analysis have highlighted that appropriate sample size is determined by looking at communality strength, factor loadings, number of factors, and items per factor (Cabrera-Nguyen, 2010; MacCallum, Widaman, Preacher, & Hong, 2001; MacCallum, Widaman, Zhang, & Hong, 1999; de Winter et al., 2009; Worthington & Whittaker, 2007).

Although caution should be taken in applying an a priori absolute threshold before commencing factor recovery (Henson & Roberts; MacCallum et al., 1999), sampling a minimum of 200 participants for an EFA has been supported by Guilford (1954). Furthermore, since the PCI has 54 variables being analyzed in the EFA, 200 participants would satisfy the minimum participant per-item ratio (3:1) suggested by Velicer and Faca (1998). Regarding item communalities, this study followed the sampling guidelines proposed by Costello and Osborne (2005). They concluded that the magnitude of communalities in social sciences is typically within the range of .40 to .70. Items with communalities below .40 will not be considered for the final factor solution.

EFA Participants. Participants in the EFA were high school athletes sampled from 14 high schools (N = 235), belonging to both urban and rural school districts, across two Midwestern states. The estimated total number of student-athletes within the 14 high schools was 8,240. These high schools were purposefully selected given that administrators or athletic directors from the school districts attended a presentation on the psycho-emotional, social, behavioral, and athletic benefits of implementing a positive sport coaching training model. After attending the presentation, the school officials expressed interest in allowing the researchers to evaluate the positive coaching construct among the high school athletes in their respective schools.

Participants of the EFA sample were asked to specify demographic information including gender, age, race, education level, number of years playing organized sport, sport involvement, and playing time.

After completing the data screening process, the final sample for the EFA consisted of 189 high school student-athletes (105 women, 82 men, 1 transgender, and 1 did not report). The

age of participants ranged from 14-18 years old with a mean age of 15.95 years. A majority of the sample identified as White (81.0%), followed by Black/African American (7.4%), Latino(a)/Hispanic (4.8%), Multiracial (3.7%), Asian/Pacific Islander (1.6%), Indigenous/Native American (1.1%), and prefer not to disclose (0.5%). Respondents indicated number of years participating in organized sport: 6 or more years (65.1%), 5 years (4.2%), 4 years (9.5%), 3 years (6.9%), 1 year (2.6%), and less than 1 year (2.6%). Participants were also asked to select the sport they have participated in and were given the option of checking multiple sports. The following sports were endorsed: baseball (n = 14), basketball (n = 46), bowling (n = 4), cheerleading (n = 10), color guard (n = 1), competitive shooting (n = 1), cross country (n = 22), dance (n = 3), football (n = 44), golf (n = 5), gymnastics (n = 5), karate (n = 1), mixed martial arts (MMA) (n = 2), powerlifting (n = 1), rugby (n = 1), soccer (n = 43), softball (n = 19), swimming and diving (n = 23), tennis (n = 9), track and field (n = 83), volleyball (n = 32), weightlifting (n = 2), and wrestling (n = 9). Lastly, participants responded to whether they were satisfied with the amount of playing time they received in their sport on a 5-point Likert item (1 = strongly disagree to 5 = strongly agree). Ten (5.3%) answered strongly disagree, 16 (8.5%) disagree, 18 (9.5%) neutral, 68 (36%) agree, 76 (40.2%) strongly agree, and one (0.5%) did not respond.

Procedures

The Campus IRB approved the study and informed consent procedures were followed. Contact was initially made with school administrators, athletic directors, and coaches of the participating high schools. The author was granted permission from the officials of the participating schools to administer the assessments associated with this research project. The

pilot study was conducted in the spring 2015, while the assessments for the EFA sample were administered during the fall 2015 through the spring 2016.

For the pilot study sample, the author met with the head football and baseball coaches of one of the high schools to recruit 15 student-athletes. The 15 student-athletes were asked to fill out the paper version of the PCI. Demographic information was not collected from this sample other than confirming that they were 18 years old to ensure that they could consent to participate without needing parental consent.

For the EFA sample, a recruitment email was sent to the athletic directors of the 14 participating high schools describing the scope and goal of the research project; it also included directions on how student-athletes could participate in the online study. The athletic directors were asked to distribute the email to the parents/legal guardians of high school athletes. A parental consent form defining the parameters of the study was attached to the email. It stated that if the parent/legal guardian consented to their son/daughter being a participant in the study, then they should forward the email to their son/daughter. The participating school districts provide their students with a school email address; thus, all students had the opportunity/access to participate if they wanted.

Once the student-athlete received the email, he/she could click on a link embedded in the email to populate the Qualtrics survey, which is an online survey data collection tool (http://www.qualtrics.com/). The first page of the Qualtrics survey was the child assent form. After reading through the assent form, participants could click on the 'I accept' tab representing their digital agreement to participate; they were then advanced to the online study web page that was otherwise inaccessible. Respondents who clicked on the 'do not agree' tab were thanked for their time but not advanced to the survey.

Participants of the EFA sample were asked to complete the following assessments: (a) minor assent and parental permission, (b) demographic information (see Appendix A), (c) PCI, (d) LSS (Chelladurai & Saleh, 1980), (d) DTLI (Callow et al., 2009), (e) CART-Q (Jowett & Ntoumanis, 2004), and (f) BPNES (Vlachopoulos & Michailidou, 2006). Participants who successfully completed the survey were offered the opportunity to enter their name into a random drawing to win one of 15 Visa gift cards worth $25.

Chapter III

Results

Preliminary Analysis

Data Screening. The sample was examined for data accuracy and missing values. Of the 235 participants who started the survey, 208 completed the PCI. A validity check item was included in the PCI, as participants were asked to select "disagree" for item 20. Of the 208 respondents, 189 (90.9 percent of the total sample) provided the correct response. As a result, the data for the 19 respondents who provided an invalid response were excluded from further analysis.

The percentage of missing values for the 54 variables ranged from 0%-1.6% (see Table 5), less than one percent (40 of 10,355; or 0.385%) of all values were missing (see Figure 1), and 6 of 189 cases (3.2%) contained at least one missing value (see Figure 1). Although consensus has not been reached regarding what percentage of missingness is problematic, some experts have suggested cut-off scores at 5% (Schafer, 1999), 10% (Bennett, 2001), and 20% (Peng, Harwell, Liou, & Ehman, 2006). The missing data percentages for the 54 variables on the PCI fell well-below the more strict exclusionary criteria recommended by Schafer (1999).

Little's (1988) missing completely at random (MCAR) test was then used to evaluate the assumption that missing values were occurring completely at random. The Little's MCAR test obtained for this study's data ($\chi 2$ (189) = 359.008, df = 290, p = .004) suggested that there may be a pattern to the missing values. The next step involved choosing an appropriate technique to manage the missing data. The automatic imputation function within SPSS was used, and the output indicated that the missing data were in fact arbitrary, resulting in the application of the fully conditional specification method of imputation.

Exploratory Factor Analysis. Prior to completing data reduction and assessing for potential factor solutions, the factorability of the PCI was evaluated using a number of well-recognized procedures. Inspection of the correlation matrix indicated that 53 of the 54 items yielded a correlation of at least .30 with one or more items (Tabachnick & Fidell, 2007). The item that failed to correlate with the other variables was deleted. Multicollinearity was assessed using Variance Inflation Factor (VIF) and Tolerance tests. Statisticians have proposed that VIF's surpassing ten or Tolerance scores below .10 imply extreme multicollinearity (Allison, 1999). Multicollinearity was not detected within the data; hence, the assumption of collinearity was met.

Bartlett's (1950) test of sphericity was investigated given that there were fewer than five cases per variable (Worthington & Whittaker, 2007). The Bartlett's test of sphericity was significant (χ^2 (1431) = 5165.02, $p < .00$). Worthington and Whittaker (2007) also proposed that using a Kaiser-Meyer-Olkin's (KMO) test of sampling adequacy will provide further evidence for the factorability of a correlation matrix. A KMO value of .60 or greater was used as the criterion for good factorability (Tabachnick & Fidell, 2001). The KMO measure of sampling adequacy was .893, well above the minimum recommended value of .60. Given that these factorability indicators were significant, the data appeared suitable for an EFA.

A core assumption of factor analytic procedures is normality in the distribution of the data (Tabachnick & Fidell, 2007). Normality of the data was assessed using two methods: (a) descriptive statistics examining the skewness and kurtosis of the 54 items, and (b) the Shapiro-Wilk test (Shaprio & Wilk, 1965). Tabachnick and Fidell (2007) established that an item with an absolute z-score above 3.29 for either the skewness or kurtosis statistic is reflective of a non-normal distribution. This conclusion was supported by Kim (2013) who surmised that an absolute z-value over 3.29 for medium sample sizes ($50 < n < 300$) evidences non-normality.

The items on the PCI indicated a non-normal distribution, and the Shapiro-Wilk test for each of the items was significant (see Table 2).

To address this violation of normality, a principal-axis factoring (PAF) analysis in SPSS was used for the 53 items given that principal factoring does not require a normal distribution (Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999). Eigenvalues were first examined to determine the amount of variance explained by the dimensions of the PCI (Haynes et al., 2011). Although factor solutions with eigenvalues greater than 1.0 were considered as a potentially appropriate solution (Kaiser, 1958), Gorsuch (1983) suggested that selecting factors solely on eigenvalues of greater than 1.0 may inaccurately represent the appropriate number of factors. The initial model had 13 factors with eigenvalues greater than 1.0, and it explained 66.00% of the total variance.

Furthermore, a scree plot was inspected to estimate the possible number of factor solutions. The scree plot indicated that a more parsimonious three-factor model may be warranted. A shortcoming of the scree plot is its vulnerability to ambiguity and subjectivity, particularly with smaller sample sizes and a low variable to factor ratio (Gorsuch, 1983; Pett, Lackey, & Sullivan, 2003; Tabachnick & Fidell, 2007). Moreover, Haynes et al. (2011) remarked on the inherent subjectivity in making decisions regarding factor analysis since there is not a “statistical rule” for dictating how many factors best summarize the data.

Due to the large discrepancy in the interpretations between the factor structures observed in the eigenvalues versus scree plot, it was difficult to understand the underlying latent construct. The ensuing process required an appraisal of individual items for possible removal. Criteria for item deletion was determined by the values of the item loadings and cross-loadings on the factors, as well as communality estimates.

Pett et al. (2003) specified that an item should be deleted if its factor loading is less than .40. Three items failed to meet this inclusion criteria and were removed. An item was also considered for deletion if it had a cross-loading that exceeded .32 on two or more factors (Tabachnick & Fidell, 2001). Nine items were dropped for having cross-loadings above .32. Some have argued that an item communality below .40 is seen as potentially problematic; thus, it should not be retained (Costello, & Osborne, 2005). Five items did not satisfy this criteria and were omitted from further analysis.

Another iteration of principal axis factoring was performed with the remaining 36 items. The eigenvalues suggested a seven-factor model which accounted for 60.89% of the cumulative variance. To further parse out the best factor solution, parallel analysis was applied. Although parallel analysis is infrequently used, it is a robust, accurate technique for factor extraction (Horn, 1965; Kahn, 2006; Zwick & Velicer, 1886). O'Connor (2000) generated syntax that could be downloaded at http://people.ok.ubc.ca/brioconn/nfactors/nfactors.html for the purposes of executing a parallel analysis. Results from the parallel analysis supported a three-factor solution (see Table 3), which was in alignment with the initial findings from the scree plot observation.

Solutions for two, three, four, five, six, seven, and eight-factor models were then tested with varimax (orthogonal) and oblimin (oblique) rotations. Factor loadings, cross-loadings, and communalities were reexamined for each solution to identify and delete problematic items. In the iterative factoring process, 15 items were deleted due to communalities falling below .40, and another six items were discarded because of cross-loadings exceeding .32 on multiple factors. A two-factor solution with 15 items (see Appendix D) using an oblimin rotation was ultimately chosen since: (1) it yielded the highest variance accounted for (56.25%) with the fewest items

(see Table 4 & 5), (2) there was a leveling off of eigenvalues on the scree plot after two factors (see Figure 2), and (3) interpretations for the other models were conceptually unclear given the insufficient number of primary loadings on additional factors.

Factor 1 was labeled *Positive Mentorship and Training* (PMT: ten items; accounting for 47.9% of the total variance). The items on this scale embodied aspects of a strengths-based training approach (Gordon & Gucciardi, 2011; McGuire, 2012; Salama-Younes, 2011; Snyder & Lopez, 2002; Thompson, 2003, 2010), including positive instructional feedback, guidance and fostering skill development, and engaging athletes in important team-related decisions. The scale also reflected the importance of mentorship, such as empowering the athlete, commitment to the athlete's well-being, and creating a supportive relationship that will motivate athletes to attain performance goals. Items that had the highest loadings on this factor included: (a) *It is important the coach provides me with guidance on how to let go of performance mistakes* (.81), and (b) *It is important that the coach helps me to set clear training goals so that I can improve my athletic skills* (.78).

Factor 2 was labeled *Meaningful Interpersonal Connections* (MIC: five items; accounting for 8.35% of the total variance). The items loading onto this scale clustered around the theme of a meaningful coach-athlete relationship (Jowett & Chaundy, 2004; Jowett & Cockerill, 2003; Jowett et al., 2005). The concepts of interpersonal connectedness, belongingness, as well as feeling appreciated and valued by the coach were the underlying tenets of the items on the MIC. The highest factor loadings for this scale were as follows: (1) *It is important that a coach makes me feel like I belong* (-.90), and (2) *I value a coach who makes every athlete feel like they are important to the team* (-.68).

Normative Information. The means and standard deviations for the total scale and the two factors were: (a) PCI total scale (*M* =65.57, *SD* = 6.99), (b) PMT (*M* = 43.37, *SD* = 4.89), and (c) MIC (*M* = 22.21, *SD* = 2.59).

Reliablity. The PCI demonstrated excellent overall internal consistency (α = .92) with strong coefficient alphas on the PMT (.89) and MIC (.85) factors. The inter-item correlations were between .23 and .62, and the corrected-item correlations for the 15 items were all positive and above .30, as they ranged from .54 to .79. The interfactor correlation coefficient between the PMT and MIC was -.68 (see Table 6), which indicated that the factors were substantially correlated. Overall, there appears to be good internal consistency based on the reliability estimates.

Chapter IV

Discussion

The purpose of the present study was to examine the psychometric properties of the PCI among high school student-athletes. Fifty four items were initially tested to assess the positive coaching construct that derived from the research on leadership and relational style (Jowett & Lavallee, 2007), motivation (Vallerand & Losier, 1999), and positive psychology (Biswas-Diener & Dean, 2007; Millner, 2012; Seligman, 2011; Seligman & Csikszentmihalyi, 2000; Snyder et al., 2011). The findings from the exploratory factor analysis revealed a meaningful two-factor solution with 15 items (see Appendix D). The resulting factors, *Positive Mentorship and Training (PMT)* and *Meaningful Interpersonal Connections* (MIC), appeared to support a holistic, strengths-based approach to coaching.

Costello and Osborne (2005) articulated that strong data requires multiple variables loading strongly onto the factors and uniformly high communalities without the presence of cross-loadings. The factor loadings were adequate (.42) to excellent (-.92) on the two-factor solution. Item communalities ranged from .42 to .74, which is considered to fit within the low-to-moderate range and typical of social science research (Costello & Osborne, 2005). There were no items with cross-loadings surpassing .32. This satisfies the criteria frequently cited by Tabachnick and Fidell (2001) as the minimum requirement for avoiding items that have overlapping variance on multiple factors. Hunsley and Mash (2008) proposed that a coefficient alpha ≥ .90 is excellent and an alpha between .80 and .89 are good. Internal consistency measures were strong for the PCI with a total scale coefficient alpha of .92 and alphas of .89 on the PMT and .85 on the MIC. Overall, these are promising results which suggest that the PCI may be a stable, meaningful measure of the positive coaching construct, and it warrants further

investigation within separate student-athlete populations. This section will further elaborate on: (a) implications of the two-factor model on theory, research, and practice, (b) limitations, (c) future directions, and (d) summary and conclusion.

Implications for Theory, Research, and Practice

PMT Factor. The PMT factor depicts the overarching concept of leadership, guidance, and mentoring. The two highest loading factors appear related to self-determination theory (Deci & Ryan, 2000; Fredrick & Ryan, 1995; Ryan & Deci, 2000; Teixeira et al., 2012) and transformational leadership (Arthur et al., 2011; Callow et al., 2009; Charbonneau et al., 2001; Rowold, 2006; Smith et al. 2013). Specifically, results indicated that athletes are seeking coaches who can *provide guidance on how to let go of performance mistakes*, as well as offer instruction in *setting clear training goals to facilitate peak performance*. The pursuit and realization of personal goals is correlated with well-being, as it is directly related to fulfillment of basic needs (Ryan & Deci, 2000). Goals direct the attention, focus, and tasks of an individual and team. Properly set process, performance, and outcome goals can connect a team around a common vision and increase self-efficacy (Chelladurai, 2009; Korek et al., 2010), foster community and camaraderie (Callow et al., 2009; Smith et al., 2013), and energize players to be more effective and productive (Arthur et al, 2011; Charbonneau et al., 2001; Rowold, 2006).

The goals and values of the team should be flexible to revision, as well as mutually-defined by the coach and players. This was evidenced by the endorsement that athletes *value a coach who involves athletes in important decisions that impact the team*. The transformational leader who advocates for a shared vision, mission, and purpose effectively communicates that the athlete's beliefs, decisions, and interests matter. In turn, members can adhere to the agreed-upon vision and strive to achieve the defined goals (Chelladurai, 2009).

Moreover, encouragement of process goals that are specific, and somewhat challenging to each member, can help individuals internalize the importance of the goals (Deci & Ryan, 1991; Ryan & Deci, 2000); it also helps the individual and team attain desired performance goals during competition and outcome goals for the entire season. Goals that are realistic and achievable allow athletes to mobilize effort and persist through challenges, which consequently increase the chances that the individual and team produces optimal performances (Ryan & Deci, 2000).

Mentorship also seems to be a prevalent concept within the PMT factor. Several items spoke to the athlete's desire for a mentor-apprentice relationship, wherein the coach cultivates an athlete's skills and empowers personal growth. *Take time to help an athlete develop mental and physical skills* is indicative of an athlete's preference that the coach fully invests in the athlete's personal and athletic development (Jowett & Lavallee, 2007). Attempting to maximize the coach-athlete relationship and communicating authentic concern for the athlete is also imperative, as evidenced by the items: (a) *It is important that the coach develops a supportive and encouraging relationship with me*, and (b) *I value a coach who cares about my well-being*.

A bedrock of the positive psychology movement is the notion that the good life comes from nurturing one's strengths and virtues (Biswas-Diener & Dean, 2007; Millner, 2012; Seligman & Csikszentmihalyi, 2000; Snyder et al., 2011). One of the main roles of a coach is providing regular feedback to empower the athlete's physical well-being, mental toughness, and commitment to the sport and fellow teammates. Three items demonstrated the significance of strengths-based feedback: (a) *I prefer a coach who provides me with positive instructional feedback*, (b) *I value a coach who acknowledges when I have been working hard to excel at my sport*, and (c) *I feel more motivated when I know that the coach believes in me*. This finding is

also supported by self-determination theory in that prosocial, encouraging coaches can boost an athlete's intrinsic motivation, inspire sustained effort and persistence, promote social development, and improve general well-being (Deci & Ryan, 2000; Fredrick & Ryan, 1995; Ryan & Deci, 2000; Teixeira et al., 2012).

MIC Factor. Essential to the MIC factor is meaningfulness and belongingness, two constructs which have roots in transformational leadership (Arnold, et al., 2007; Callow et al., 2009; Korek et al., 2010; Smith et al., 2013), coaching and relational theory (Jowett & Chaundy, 2004; Jowett & Cockerill, 2003; Jowett, et al., 2005), and positive psychology (Seligman, 2011). Items loading strongly on this factor conveyed that athletes are looking for a strong interpersonal connection with their coach. Athletes are more likely to strive for excellence, master new skills, and engage their skills wholeheartedly when they feel recognized and supported by their coach (Ryan & Deci, 2000).

It is important that a coach makes me feel like I belong, *it is important that I feel valued as a person*, and *it is important that I feel appreciated by the coach* had strong to moderate loadings on the MIC factor. These three items reinforce the conclusions by Jowett and colleagues (Jowett & Chaundy, 2004; Jowett & Cockerill, 2003; Jowett, et al., 2005) who found that closeness, defined as the level of trust, liking, and respect in the coach-athlete relationship, is a contributing factor to an athlete's positive intrapersonal, interpersonal, psychosocial, and sport-specific development. Another task of the coach is to create cohesiveness among teammates. The transformational leadership approach inspires social and task cohesion (Callow et al., 2009; Smith et al., 2013). The strong preference for unity, team cohesion, and respect was evidenced on the MIC factor with the items: (a) *I value a coach who makes every athlete feel like they are*

important to the team, and (b) *it is important that the coach values the relationships with his/her athletes.*

In order to establish a culture of team cohesion, a two-way channel of communication is essential. The level of productivity and quality of team participation relies on how well the coach and athletes communicate (Jowett et al., 2005; Smith et al., 2013). The coach must demonstrate openness, honesty, and commitment when talking and reflecting with the team. Ambiguity and miscommunication can occur when coaches are not open, honest, and committed. Communication does not just involve the coach stating the tasks, goals, mission, and philosophy for the team; communication also means that the coach is open and empathic to the thoughts and feelings of the players. A coach that can effectively listen to players displays trust and caring (Jowett et al., 2005; Jowett & Cockerill, 2003; Jowett & Meek, 2000a, 2000b), and subsequently establishes a necessary bond. The bond helps the team to establish mutually well-defined goals, find mutually agreed-upon tasks, and distinguish roles. Healthy, collaborative communication strengthens the relationships between the coach and team members, and it motivates the team to strive toward excellence (Ryan & Deci, 2000).

Realistically, a coach will not be able to dedicate an equal amount of time and energy to the needs, thoughts, and feelings of every individual member of the team. A coach still needs to support and encourage every member to feel included and valued. The coach should send a clear message that everyone is invited to share in the strivings toward team goals. The hope is that every player realizes that he/she is an integral part of the team dynamic, and if that message is conveyed successfully, then each member focuses on the individualized tasks that lead teams to be a productive, successful, and cohesive unit.

Positive Coaching, Identity, and Successful Outcomes. A byproduct of participation in sport is that it can shape one's self-concept, and inherently, self-esteem (Foley, 2001; Steinfeldt & Steinfeldt, 2012). Sport participation is a widely popular and pervasive cultural phenomenon that affects the identity formation process (Kleiber & Kirshnit, 1991; Tasiemski & Brewer, 2011). Many athletes equate their skills and knowledge, social and emotional self, self-esteem, and ultimately, their self-identity as being primarily cultivated by their sport experience (Brewer, Van Raalte, & Linder, 1993; Chandler & Goldberg, 1990; Curry, 1993; Lau, Fox, & Cheung, 2006; Miller & Kerr, 2003). Daily training and competition within the sport setting results in hours of constructing and strengthening social, emotional, and cognitive self-schemas (Brettschneider & Heim, 1997; Lau et al., 2006).

Identification with an athlete self-concept represents a domain-specific perception of self (Brewer et al., 1993), and it influences global identity formation which is thought to be hierarchical and multidimensional (Marsh, 2008). Self-identity is malleable and is formed by the combination of environmental conditions and personal actions (Kernis & Goldman, 2002). An iterative relationship exists between athletic identity and sport participation in that each enhances the other (Curry, 1993). For a majority of athletes, the assimilation of an athlete identity begins with sport participation at the youth level (Anderson & Cychosz, 1995). The athletic identity is then refined during adolescence (Kleiber & Kirshnit, 1991) and continues to evolve in emerging adulthood (Barber, Eccles, & Stone, 2001). Children who persist in sport participation through adolescence and into early adulthood have formulated a strong athletic identity (Tenenbaum & Eklund, 2007).

Cooley (1902) proclaimed that formation of a self-concept is attributed to the process of reflexively evaluating how others judge us. According to Cooley's symbolic interactionist

approach, an athlete will imagine how his or her cognitive competence, physical performance, emotional self, and social self is being perceived by the coach. As a result, the athlete may internalize the opinions of the coach into his or her self-concept, and this impacts the athlete's self-esteem and self-worth (Harter, 2008). Additionally, much of the self-concept and self-esteem for an athlete can be dependent upon the socialization experiences and indoctrination into norms of the sport culture (Harter, 2008), perceived competence and autonomy in athletic roles (Brewer et al., 1993; Lau, et al., 2006), the connectedness between the coach and athlete (Jowett et al., 2005), and whether or not peers in the sport are socially accepting or rejecting of the athlete (Lau, Fox, & Cheung, 2005).

There is a premium, therefore, on coaching leadership behavior because it affects an athlete's self-identity, interaction with teammates, motivation to reach performance goals, and satisfaction (Riemer & Toon, 2001). The coach models foundational beliefs and philosophies of coaching during the total sport experience—during travel, team bonding activities, practices, film-sessions, competition, and one-on-one meetings with players. The coach is more than just the leader; the coach is the "environmental engineer" (McGuire & Portenga, 2005). The athletes, and team as a whole, experience the sport environment that the coach designs and shapes. Consistent with the findings in the present study, a prosocial leadership style is positively correlated with athlete satisfaction and successful outcomes (Riemer & Toon, 2001; Turman, 2008).

As the role model and provider of the sport experience, the coach has the responsibility of defining how the group dynamic will take shape: the philosophy, mission, purpose, and goals and tasks of individual members. The coach also models how to behave and react to the sport environment; the athletes look to the coach after successes, failures, wins, and losses to see the

coach's verbal and nonverbal expressions. Athletes observe those language and behavioral cues, and they learn to incorporate those words, emotions, and behaviors into their sport experience. Coaches who display positive immediacy behaviors, such as smiling at athletes or expressing authentic interest in their lives outside of sport, can enhance the coach-athlete bond, facilitate task completion, and cultivate positive peer relationships (Turman, 2008). Turman (2008) observed that the positive immediacy behaviors predicted athlete's perceived level of satisfaction and team cohesiveness. Thus, the environment created by the coach's verbal and nonverbal presence influences how the team bonds, and which attitudes, values, and behaviors the team embodies (Gardner, Shields, Bredemeier, & Bostrom, 1996; Turman, 2003, 2008).

The positive coaching movement is devoted to promoting a democratic, strength-based approach to instruction and guidance (Gordon & Gucciardi, 2011, McGuire, 2012; Thompson, 1995, 2003, 2010; Salama-Younes, 2011). Nicholas, Gaudreau, and Franche (2011) provided strong evidence for positive coaching on outcome performance. As hypothesized, results suggested that positive coaching was a strong predictor of task-oriented coping and sport achievement. The authors further concluded that positive coaching styles prime athletes to use effective stress management techniques during competition. Strong mentorship within the coach-athlete relationship also promotes positive learning outcomes and enhances player satisfaction (Turman, 2003, 2008).

Additionally, Widmeyer, Carron, and Brawley (1993) determined that 83% of studies on team cohesion literature concluded that a positive relationship existed between team cohesion and performance. The most effective techniques for fostering team cohesion are through prosocial coaching behaviors, such as nurturing social support and focusing on training and instruction (Gardner, Shields, Bredemeier, & Bostrom, 1996). Conversely, an inverse

relationship exists between an autocratic coaching style and team cohesiveness (Gardner et al., 1996).

Intrinsic motivation arises from feeling a sense of autonomy, competence, and relatedness (Ryan & Deci, 2000), which are factors connected to positive coaching. When athletes are intrinsically motivated, they are more likely to experience enjoyment and vitality (Ryan, 1995). Researchers have also found that teams who felt satisfied and successful had coaches that displayed frequent rewards, social support, and a democratic style of decision-making (Weiss & Friedrichs, 1986). Whereas, transactional and dictatorial coaching styles have been linked to negative mental health outcomes, including mood dysregulation, relationship difficulties, alcohol abuse, eating disorders, burnout, and lowered self-esteem (Cox, 2007; Fraser-Thomas, Côté, & Deakin, 2008; Galli & Reel, 2009, Gervais & Dunn, 2004; Goss, Cooper, Stevens, Croxon, & Dryden, 2005; Jowett, 2003; Watson, 2002). An aggressive coaching style that is characterized by argumentativeness, hostile reactions to mistakes, negative emotionality, and punitive behaviors can lead to an athlete feeling increasingly dissatisfied, frustrated, incompetent, and unworthy (Kassing & Infante, 1999, Sagar & Jowett, 2012).

Limitations

From a test construction standpoint, the items on the PCI did not demonstrate a normal distribution. The distributional shape suggested non-normality in skewness, kurtosis, and the Shapiro-Wilk test (see Table 2). While the statistical inferences are stronger if there is evidence of normality, one can still conduct exploratory factor analysis given that principal axis factoring does not require the assumption that normality has been satisfied (Leandre, Wegener, MacCallum, & Strahan, 1999).

Another limitation with this study was the moderate sample size (189) for final factor analysis. Smaller sample sizes with lower to moderate communalities are at risk of extracting weak factor loadings (MacCallum et al., 2001), rendering the data less interpretable. According to Worthington and Whittaker (2007), best practices for factor analysis are: (a) to have a sample size higher than 300, or (b) for moderate sample sizes (150 to 200 participants), retain communalities exceeding .50 for all variables, or meet 10:1 participant to item ratio with factor loadings at $|.4|$. The current study followed less stringent guidelines, specifically variables were retained with communalities higher than .40 (Costello & Osborne, 2005) and the participant to item ratio was 3:1 (Velicer & Faca, 1998). However, all factor loadings exceeded $|.4|$.

The lack of diversity in the demographic characteristics may also be seen as a weakness, leading to less likelihood of generalizability. A majority of the participants in this study identified as White (81.0%) and attended middle to upper-middle class school systems. It is strongly advised that future validation studies recruit more diverse student-athletes to better encapsulate the general student-athlete population in the U.S. It is also unclear to what extent the findings from this study may be generalized to other levels of sport competition, specifically college and elite (professional) sports. Training and competition looks different at the elite level, as there is more investment of financial resources, time requirements, as well as physical, emotional, and psychological vigor. The combination of these factors can increase the psychological and emotional pull to win at all costs. In turn, this dynamic can influence the attitudes and behaviors of the coaches and athletes competing at this level. Additional studies using the PCI should investigate these hypotheses to determine if elite athletes have different preferences for how they are coached.

Recommendations for Future Research: Next Phase for Validation of the PCI

Following Gill et al.'s (1988) recommendations for developing and validating a multidimensional sport measure, the next step for establishing the psychometric soundness of the PCI is to perform and interpret a CFA. Future investigations will apply a CFA with a separate student-athlete sample to measure the stability of the factor structure obtained from the EFA in the present study, as well as provide descriptive and normative information on the PCI.

The purpose of the CFA will be to examine the normality of distributions, assess for univariate or multivariate outliers, and evaluate model fit. To measure the factor stability of the PCI, the maximum likelihood estimation method in AMOS 4.0 will be analyzed (Arbuckle, 1999). Multiple indices of fit will be reported following Kline's (2005) recommendations to determine the overall, incremental, and absolute fit of the model to the data. Overall model fit will be assessed using the chi-square value ($\chi 2$) with corresponding degrees of freedom and level of significance. The incremental fit index will be evaluated with the Comparative Fit Index (CFI; Bentler, 1990). The Absolute fit indices will be measured with the Standardized Root Mean-Square Residual (SRMR; Bentler, 1995) and Root Mean-Square Error of Approximation at 90% confidence intervals (RMSEA; Steiger & Lind, 1980).

To provide convergent and discriminant validity, correlations will be calculated to assess the association between the PCI and the LSS (Chelladurai & Saleh, 1980), DTLI (Callow et al., 2009), CART-Q (Jowett & Ntoumanis, 2004), and BPNES (Vlachopoulos & Michailidou, 2006). The interfactor correlation coefficient will be calculated to assess the strength and direction of the correlations between the factors of the PCI. Cronbach's alpha will also be used to measure the internal consistency of the PCI. Descriptive statistics such as the means, standard deviations, skewness, and kurtosis will be calculated.

Cross-cultural analysis is essential to scientific inquiry because it is an indicator of the external validity of a psychological construct (Duda & Allison, 1990; Sue, 1999). To understand the generalizability of psychological theories on cognitions, affect, and behavior in the sport domain, researchers must examine the psychological phenomena across diverse groups of people (Duda & Allison, 1990). Cultural background and nationality (Chelladurai, Imamura, Yamaguchi, Oinuma, & Miyauchi, 1988; Chelladurai, Malloy, Imamura, & Yamaguchi, 1987; Terry, 1984), gender (Chelladurai & Saleh, 1978; Terry, 1984), and the type of sport played (Chelladurai et al., 1987) are variables that may affect preferred coaching leadership styles.

Cultural variations in psychological phenomena are expected given differences in beliefs, practices, social roles and norms, and organizational structures between cultures (Ilesanmi, 2009). Previous studies examining leadership preferences among different cultural groups has shown that an athlete's preference for coaching behaviors may be moderated by cultural affiliation (Chelladurai et al., 1988; Chelladurai et al., 1987). Chelladurai et al. (1988) concluded that Canadian athletes favored coaches who displayed performance-oriented leadership which stressed training and instruction, while Japanese athletes preferred coaches who implemented an autocratic and socially-supportive coaching approach.

Although the abovementioned research examines differences among cross-cultural populations, there is a dearth of research on coaching preferences among diverse racial and ethnic groups (Burdette, Joyner, & Czech, 2012). Burdette et al. (2012) applied discriminant analysis to determine if race predicted coaching leadership preferences among 140 Division I athletes. They concluded that an athlete's race could not predict leadership preferences. Notable limitations of their study included the small sample size and non-random assignment, which reduces the generalizability of their findings.

Assessing the cross-cultural applicability of the PCI is mandatory for establishing the validity of this instrument and its usefulness among diverse cultural groups. Future investigations should evaluate whether the factor structure that was found in the present study is confirmed or contradicted within cross-cultural athlete samples.

Gender similarities and differences in preferred coaching behaviors has been comprehensively studied by several researchers (Beam, Serwatka, & Wilson, 2004; Burdette et al., 2012; Chelladurai & Arnott, 1985; Chelladurai & Saleh, 1978; Martin, Jackson, Richardson, & Weiller, 1999; Sherman, Fuller, & Speed, 2000; Terry, 1984; Terry & Howe, 1984). Findings are mixed regarding gender differences in preferred leadership among athletes (Burdette et al., 2012; Witte, 2011), leading to a muddled picture regarding the interaction between gender and preferred leadership behaviors. A fair number of investigators have demonstrated significant differences when comparing genders (Chelladurai & Saleh, 1978; Terry, 1984). For example, some studies concluded that female athletes sought more social support behavior (Riemer & Toon, 2001), situational consideration behavior (i.e., inserting athletes into proper positions and adjusting coaching methods based on skill and maturity levels) (Witte, 2011), and positive feedback (Witte, 2011), while male athletes were partial to autocratic coaching behavior (Beam et al., 2004; Riemer & Toon, 2001). Other researchers suggested that differences do not exist between genders on leadership preferences (Burdette et al., 2012; Martin et al., 1999; Sherman et al., 2000; Terry & Howe 1984).

Future studies implementing the PCI within different student-athlete populations can measure if gender identity influences the preference for or against a strengths-based coaching paradigm. At this time, it is unclear if gender differences will emerge regarding attitudes toward strengths-based coaching.

Age and amount of playing time are additional variables that may dictate preferences for coaching leadership (Burdette et al. 2012; Chelladurai et al., 1987; Martin et al, 1999; Witte 2011). Youth athletes cited that having fun, learning an athletic skill, increasing fitness, excitement of competition, and being with friends are the top reasons for beginning youth sports (Cox, 2007). Consequently, youth athletes experience the most satisfaction when coaches can create a sport environment where these factors are promoted and fostered (Weinberg, 1995; Weiss, 2008). Positive interactions with coaches and peers, having fun, and improving athletic skills is associated with sustained participation in sport for youth and adolescent athletes (Weinberg, 1995). Results on gender differences at the youth level regarding coaching preferences is conflicted (Burdette et al., 2012). One study found that youth girls may prefer more of a democratic coaching style compared to boys (Martin et al., 1999), while a later study by Martin, Dale, and Jackson (2001) observed that adolescent boys and girls equally preferred coaches who prioritized instructional coaching. Burdette et al. (2012) surmised that evaluating the amount of playing time is an independent variable worth studying. Amount of playing time can shape the athlete's perception of the coach's leadership style, and it may moderate the athlete's level of enjoyment and satisfaction with the sport experience (Chambers, 1991; McDonough & Crocker, 2005; Orlick, 1973). In Burdette et al.'s (2012) review of the literature, they documented that playing time is an often overlooked variable in classifying student-athlete preferences for coaching leadership style. Their discriminant analysis study established that there was no distinct difference between preferred coaching behaviors based on amount of playing time.

Investigators have also explored preferred coaching behaviors as athletes move into higher levels of competition (Chelladurai & Carron, 1983; Hastie, 1995; Riemer & Toon, 2001;

Terry, 1984). Conclusions on the effects of maturity level and elite status on coaching preferences are varied (Burdette et al., 2012). Martin et al. (1999) observed that early and late adolescent athletes responded similarly to desired leadership behaviors, as positive feedback and instruction were endorsed as the most valued and meaningful coaching behaviors at these developmental stages. Whereas, Chelladurai and Carron (1993) hypothesized that an athlete's maturity level, operationally defined as the (a) competition level, (b) number of years involved in sport participation, and (c) age, produced significant attitudinal differences in preferred coaching leadership. Notably, as maturity, age, and experience increased, the desire for relational support increased as well. They found that there was a decline in the preference for training and instruction as one moved from early adolescence (14-15) to late adolescence (18-19). However, upon initiating collegiate sports, this trend reversed, as college athletes strongly valued a coach who emphasized instructional behaviors.

Furthermore, it is uncertain if there is a clear pattern in the coaching preferences of athletes participating at the highest levels of sport, both at the collegiate and professional levels. An initial investigation by Terry (1984) compared elite college athletes to college club athletes. The results showed a differentiation based on skill level, specifically that elite athletes preferred more social support and democratic behavior and less positive feedback than club sport participants. Studies conducted by Riemer and Toon (2001) and Hastie (1995) supported Terry's conclusion that athletes with greater athletic prowess and mastery were not as drawn to receiving positive feedback from coaches. Yet, Beam et al. (2004) reported that no differences existed between NCAA Division I and Division II athletes on preferred coaching leadership behaviors.

One must also consider the type of sport played as a contributing factor for preferential coaching behaviors (Beam et al., 2004; Burdette et al., 2012; Terry, 1984; Terry & Howe, 1984;

Witte, 2011). Consensus has not been reached on the influence of the type of sport (interdependent vs. independent) on leadership preferences (Jowett & Lavallee, 2007). Comparing between sport types is a difficult, convoluted endeavor given that the task attributes within and between individual and team sports can differ greatly, and the level of competition in these studies are not controlled for when making comparisons (Reimer & Chelladurai, 1995).

The seminal study by Terry (1984) revealed that athletes in team sports were more interested in training, autocratic, and rewarding behaviors, while less attracted to democratic and social support behaviors. Beam et al. (2004) and Terry and Howe (1984) concurred that a democratic leadership style appealed less to athletes participating in a team sport than an individual sport. Beam et al. (2004) also reported that individual sport athletes prefer positive feedback, situational consideration, and social support, while less of a preference for autocratic and instructional behaviors. Witte (2011) found that individual sport athletes rated higher preferences for positive feedback, social support, training and instruction, democratic behavior, and situation consideration as compared to team sport athletes.

Future research will administer the PCI within different samples of varying age groups (youth, adolescent, young adult, senior adult), competition levels (youth, middle/high school, collegiate, elite/professional), and years of training experience. This will provide a better understanding of the attitudes and opinions regarding a strengths-based training approach across these important domains.

The final phase of the scale construction project will involve a longitudinal design measuring the temporal stability of the 15-item PCI and its two subscales over a four-week period.

Summary and Conclusion

The psychometric data for the PCI is promising, but additional testing is warranted to assess its convergent and discriminant validity. In addition, the stability of the PCI over time needs to be measured to ensure its consistency. The results from this study provide useful information about the emerging positive coaching construct, namely that there appears to be two underlying factors within the latent variable. The PMT factor seemed to encompass aspects of leadership, guidance and training, while the MIC factor captured the importance of a coach who is appreciative, respectful, and makes athletes feel a sense of belongingness. In general, the PCI reflects the domains of leadership and relational style, motivation, and positive psychology. It is hoped that the PCI can add to the limited knowledge base on the positive coaching construct within the sport psychology literature. Once researchers have a better understanding of the underpinnings of the construct, then it is imperative that these findings are shared with all of the stakeholders in sport: (a) administrators, (b) coaches, (c) parents, (d) athletes, and (e) fans.

In sum, it is critical that researchers within sport psychology continue deconstructing what positive coaching is and how it impacts student-athletes. The initial findings on positive coaching have been correlated with athlete's satisfaction, positive performance outcomes, prosocial relationships, resilience, and overall enhanced mental health. While positive coaching should not be seen as a panacea for ridding the sport world of all its unpleasant, nasty qualities, the outcomes associated with positive coaching substantiate its value in empowering the athletic, social, emotional, and psychological well-being of student-athletes.

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Table 1. *Percent Missing Values on initial 54 items*

	Missing		
	N	Percent	Valid N
24. It is important that the coach serves as a positive role model.	3	1.6%	186
51. It is important that the coach develops a supportive and encouraging relationship with me.	2	1.1%	187
32. It is important that the coach consistently acknowledges the progress I have been making.	2	1.1%	187
55. It is important that the coach collaborates with the athletes to establish team rules/expectations.	1	0.5%	188
54. It is important that the coach acknowledges my achievements.	1	0.5%	188
53. It is important that the coach helps me to set clear training goals so that I can improve my athletic skills.	1	0.5%	188
52. It is important that the coach provides me with guidance on how to let go of performance mistakes.	1	0.5%	188
50. I perform worse when a coach only focuses on the mistakes that I have made.	1	0.5%	188
49. I value a coach who involves athletes in important decisions that impact the team.	1	0.5%	188
48. I feel more motivated when I know that the coach believes in me.	1	0.5%	188
47. I value a coach who cares about how I am doing outside of the sport experience.	1	0.5%	188
46. I prefer a coach who provides me with positive instructional feedback.	1	0.5%	188
45. I prefer a coach who takes time to help me develop mental and physical skills.	1	0.5%	188
44. I perform better after a coach yells at me for making a mistake.	1	0.5%	188
43. I value a coach who cares about my well-being.	1	0.5%	188
42. I value a coach who acknowledges when I have been working hard to excel at my sport.	1	0.5%	188
41. It is important that the coach helps me to identify personal values.	1	0.5%	188
40. It is important that the coach models good sportsmanship.	1	0.5%	188
39. It is important that the coach values the opinions of the athlete.	1	0.5%	188
38. It is important that the coach clearly communicate a set of core values for the team to follow.	1	0.5%	188
37. It is important that the coach shows a commitment to integrity.	1	0.5%	188
36. It is important that the coach makes me feel valued as a person.	1	0.5%	188
35. It is important that a coach focuses more on an athlete's effort rather than winning.	1	0.5%	188
34. It is okay for the coach to be persistently critical of an athlete.	1	0.5%	188
33. It is acceptable for the coach to use excessive discipline/punishment when an athlete makes a mistake.	1	0.5%	188
31. It is important to be respected by the coach.	1	0.5%	188
30. It is important that the coach values my personal development.	1	0.5%	188
29. I am motivated by a coach that consistently challenges me to improve.	1	0.5%	188
28. It is important that the coach focuses more on improvement rather than winning.	1	0.5%	188

27. It is important that the coach values the relationships with his/her athletes.	1	0.5%	188
26. It is important that a coach makes me feel like I belong.	1	0.5%	188
25. I value a coach who focuses on helping me to master athletic skills.	1	0.5%	188
19. It is important that the coach inspires a strong sense of shared purpose within the team.	1	0.5%	188
16. It is acceptable for the coach to be disrespectful toward an athlete in order to get the athlete to perform better.	1	0.5%	188
15. I prefer a coach who can remain composed when things are not going well.	1	0.5%	188
6. I value a coach who is an optimistic leader.	1	0.5%	188
23. I prefer that the coach creates a training environment where failure is seen as an opportunity for growth and learning.	0	0.0%	189
22. It is important for the coach to model how to cope effectively with adversity.	0	0.0%	189
21. I value a coach who can help me to recognize my strengths.	0	0.0%	189
20. Select Disagree for this question.	0	0.0%	189
18. I prefer to play for a coach who encourages trash talk to humiliate the opponent.	0	0.0%	189
17. I value a coach who makes every athlete feel like they are important to the team.	0	0.0%	189
14. I value a coach who does not motivate through fear.	0	0.0%	189
13. It is acceptable for a coach to encourage cheating if it leads to a win.	0	0.0%	189
12. I value a coach who builds a sense of community among teammates.	0	0.0%	189
11. It is important that I feel appreciated by the coach.	0	0.0%	189
10. I want to play for a coach who emphasizes winning at all costs.	0	0.0%	189
9. I prefer that the coach comes to practices and games with a positive attitude.	0	0.0%	189
8. It is important that the coach creates a cooperative team environment.	0	0.0%	189
7. I prefer that the coach provides specific correctional feedback to help me improve my skills and performance.	0	0.0%	189
5. It is important for me to be trusted by the coach.	0	0.0%	189
4. I prefer that the coach focuses more on my strengths than weaknesses.	0	0.0%	189
3. It is important that the coach remains fully committed to the team after defeat.	0	0.0%	189
2. It is important that I feel accepted by the coach.	0	0.0%	189
1. I prefer a coach that praises my effort rather than my ability.	0	0.0%	189

Note. Maximum number of variables shown: 55; Minimum percentage of missing values for variable to be included: 0.0%

Table 2. *Tests of Normality on original 54 items*

			Shapiro-Wilk		
	Skewness	Kurtosis	Statistic	df	Sig.
1. I prefer a coach that praises my effort rather than my ability.	-.40	-.53	.858	183	.000
2. It is important that I feel accepted by the coach.	-1.11	1.145	.719	183	.000
3. It is important that the coach remains fully committed to the team after defeat.	-2.17	4.06	.476	183	.000
4. I prefer that the coach focuses more on my strengths than weaknesses.	.038	-.39	.904	183	.000
5. It is important for me to be trusted by the coach.	-.92	-.15	.691	183	.000
6. I value a coach who is an optimistic leader.	-.61	-.57	.739	183	.000
7. I prefer that the coach provides specific correctional feedback to help me improve my skills and performance.	-1.29	.675	.610	183	.000
8. It is important that the coach creates a cooperative team environment.	-1.17	.349	.623	183	.000
9. I prefer that the coach comes to practices and games with a positive attitude.	-1.61	1.66	.589	183	.000
11. It is important that I feel appreciated by the coach.	-.11	-.76	.755	183	.000
12. I value a coach who builds a sense of community among teammates.	-.82	.47	.703	183	.000
14. I value a coach who does not motivate through fear.	-.70	-.28	.859	183	.000
15. I prefer a coach who can remain composed when things are not going well.	-1.26	2.09	.752	183	.000
17. I value a coach who makes every athlete feel like they are important to the team.	-1.26	1.22	.715	183	.000
19. It is important that the coach inspires a strong sense of shared purpose within the team.	-.79	.45	.758	183	.000
21. I value a coach who can help me to recognize my strengths.	-.62	-.66	.697	183	.000
22. It is important for the coach to model how to cope effectively with adversity.	-.62	-.15	.791	183	.000
23. I prefer that the coach creates a training environment where failure is seen as an opportunity for growth and learning.	-1.40	2.37	.746	183	.000
24. It is important that the coach serves as a positive role model.	-1.11	.25	.661	183	.000
25. I value a coach who focuses on helping me to master athletic skills.	-.82	-.41	.672	183	.000
26. It is important that a coach makes me feel like I belong.	-1.04	.62	.712	183	.000
27. It is important that the coach values the relationships with his/her athletes.	-.72	-.45	.719	183	.000

28. It is important that the coach focuses more on improvement rather than winning.	-.61	-.61	.819	183	.000
29. I am motivated by a coach that consistently challenges me to improve.	-.96	-.10	.701	183	.000
30. It is important that the coach values my personal development.	-.65	-.54	.742	183	.000
31. It is important to be respected by the coach.	-1.29	1.54	.657	183	.000
32. It is important that the coach consistently acknowledges the progress I have been making.	-.37	-.43	.818	183	.000
35. It is important that a coach focuses more on an athlete's effort rather than winning.	-.26	-.80	.849	183	.000
36. It is important that the coach makes me feel valued as a person.	-.58	-.67	.758	183	.000
37. It is important that the coach shows a commitment to integrity.	-.80	-.34	.711	183	.000
38. It is important that the coach clearly communicate a set of core values for the team to follow.	-.67	-.55	.744	183	.000
39. It is important that the coach values the opinions of the athlete.	-.42	-.49	.800	183	.000
40. It is important that the coach models good sportsmanship.	-1.57	2.31	.619	183	.000
41. It is important that the coach helps me to identify personal values.	-.69	.90	.835	183	.000
42. I value a coach who acknowledges when I have been working hard to excel at my sport.	-.50	-.69	.714	183	.000
43. I value a coach who cares about my well-being.	-.63	-.55	.707	183	.000
45. I prefer a coach who takes time to help me develop mental and physical skills.	-.62	-.05	.761	183	.000
46. I prefer a coach who provides me with positive instructional feedback.	-.65	-.57	.741	183	.000
47. I value a coach who cares about how I am doing outside of the sport experience.	-.61	-.36	.815	183	.000
48. I feel more motivated when I know that the coach believes in me.	-1.16	1.32	.720	183	.000
49. I value a coach who involves athletes in important decisions that impact the team.	-.66	-.62	.746	183	.000
50. I perform worse when a coach only focuses on the mistakes that I have made.	-.48	-.50	.888	183	.000
51. It is important that the coach develops a supportive and encouraging relationship with me.	-.46	-.87	.780	183	.000
52. It is important that the coach provides me with guidance on how to let go of performance mistakes.	-.80	.31	.797	183	.000
53. It is important that the coach helps me to set clear training goals so that I can improve my athletic skills.	-1.26	2.50	.752	183	.000
54. It is important that the coach acknowledges my achievements.	-.82	.88	.807	183	.000

55. It is important that the coach collaborates with the athletes to establish team rules/expectations.	-.85	.33	.773	183	.000

Table 3. *Parallel Analysis for 36 items*

	Root	Raw	Means	Percentile
1.	000000	13.091622	1.351385	1.390747
2.	000000	2.484083	1.309906	1.339902
3.	000000	1.586488	1.279589	1.305431
4.	000000	1.239868	1.253555	1.276700
5.	000000	1.184512	1.229478	1.250535
6.	000000	1.147681	1.207509	1.226963
7.	000000	1.053424	1.186163	1.203947
8.	000000	.932828	1.166341	1.183864
9.	000000	.900204	1.147060	1.164260
10.	000000	.892223	1.129022	1.145097
11.	000000	.827183	1.111320	1.127757
12.	000000	.805137	1.093979	1.110680
13.	000000	.729165	1.077040	1.092676
14.	000000	.670106	1.060588	1.075365
15.	000000	.662294	1.044049	1.058382
16.	000000	.649526	1.028603	1.043076
17.	000000	.578785	1.013378	1.028073
18.	000000	.572618	.998208	1.011321
19.	000000	.516410	.982740	.996777
20.	000000	.499339	.967492	.981024
21.	000000	.487385	.952644	.967198
22.	000000	.437417	.937584	.951912
23.	000000	.415897	.923162	.937511
24.	000000	.400974	.907898	.921923
25.	000000	.388091	.892592	.907408
26.	000000	.364944	.877494	.891880
27.	000000	.335307	.862627	.877858
28.	000000	.310140	.846862	.862469
29.	000000	.294973	.831762	.846910
30.	000000	.276576	.816232	.830626
31.	000000	.265601	.799321	.814950
32.	000000	.245879	.782284	.799392
33.	000000	.231036	.764711	.781564
34.	000000	.183262	.745733	.763563
35.	000000	.176487	.724603	.744474
36.	000000	.162536	.697088	.721981

Note. *Eigenvalue Monte Carlo Simulation & Random Data Generation using 1,000 data sets and .95th percentile*

Table 4. *Factor Eigenvalues and the Variance Accounted for on the PCI*

	Initial Eigenvalues		
Factor	Total	% of Variance	Cumulative %
1. Positive Mentorship and Training	7.19	47.90	47.90
2. Meaningful Interpersonal Connections	1.25	8.35	56.25

Note. PCI = Positive Coaching Inventory

Table 5. *Items, Factor Loading, Communality Estimates, Means, Standard Deviations, and Alpha Coefficients for the Two-Factor Model EFA*

	Two-factor oblique Model			
15 items (α = .92)	Factor Loading	h^2	*M*	*SD*
Factor 1: Positive Mentorship and Training (PMT; ten items; α = .89)				
52. It is important that the coach provides me with guidance on how to let go of performance mistakes.	.81	.53	4.24.	.76
53. It is important that the coach helps me to set clear training goals so that I can improve my athletic skills.	.78	.49	4.33	.74
45. I prefer a coach who takes time to help me develop mental and physical skills.	.67	.54	4.35	.65
51. It is important that the coach develops a supportive and encouraging relationship with me.	.66	.55	4.29	.70
46. I prefer a coach who provides me with positive instructional feedback.	.59	.42	4.42	.65
43. I value a coach who cares about my well-being	.55	.44	4.49	.58
48. I feel more motivated when I know that the coach believes in me.	.48	.46	4.45	.68
42. I value a coach who acknowledges when I have been working hard to excel at my sport.	.43	.42	4.46	.58
41. It is important that the coach helps me to identify personal values.	.43	.44	3.95	.82
49. I value a coach who involves athletes in important decisions that impact the team.	.42	.45	4.40	.69
Factor 2: Meaningful Interpersonal Connections (MIC; five items; α = .85)				
26. It is important that a coach makes me feel like I belong.	-.90	.74	4.50	.63
17. I value a coach who makes every athlete feel like they are important to the team.	-.68	.44	4.47	.71
27. It is important that the coach values the relationships with his/her athletes.	-.64	.45	4.49	.60
36. It is important that the coach makes me feel valued as a person.	-.62	.70	4.37	.66
11. It is important that I feel appreciated by the coach.	-.58	.42	4.37	.67

Note. N = 189. h^2 = communality estimates

Table 6. *Intercorrelations Among the PCI*

Factor	1	2
1. Positive Mentorship and Training	—	
2. Meaningful Interpersonal Connections	-.68	—

Note. PCI = Positive Coaching Inventory

Figure 1. *Overall Summary of Missing Values*

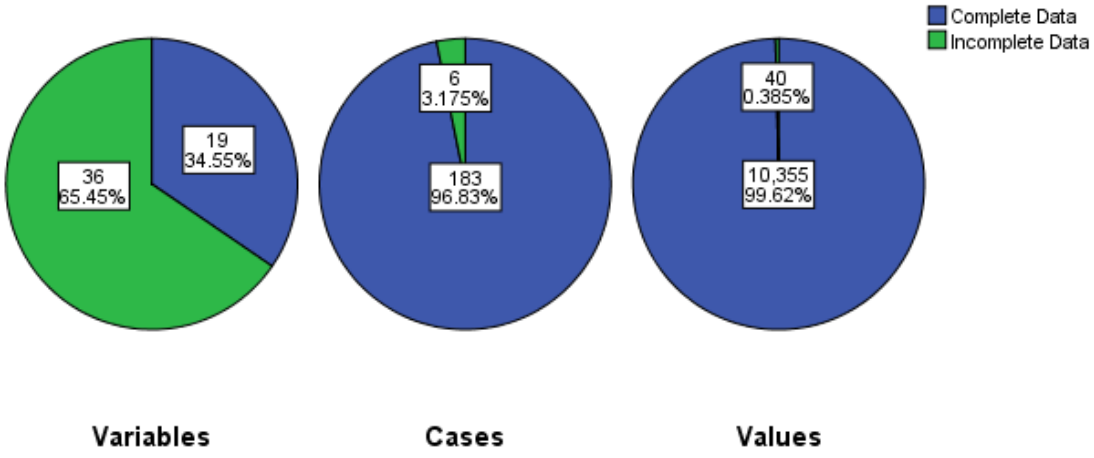
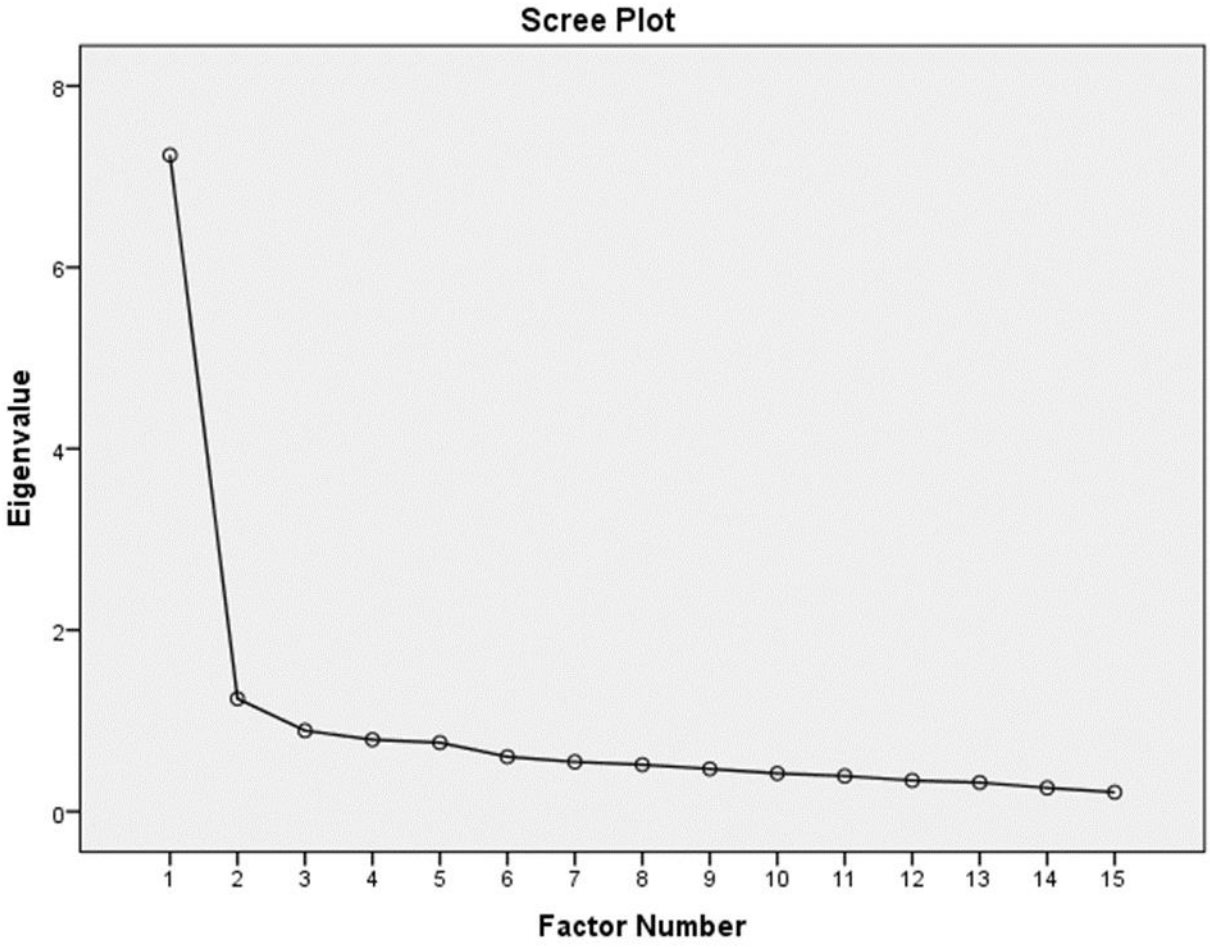


Figure 2. *Scree plot for the PCI*



Appendix A. Demographic Information

Age: _____

Gender:

- Male
- Female
- Transgender
- Prefer not to disclose

Race/Ethnicity:

- Asian/Pacific Islander
- Black/African American
- Latino(a)/Hispanic
- Middle Eastern
- Indigenous/Native American
- White
- Multiracial
- Prefer not to disclose

Number of years participating in organized sports:

- Less than 1 year
- 1 year
- 2 years
- 3 years
- 4 years
- 5 years
- 6 or more years

Which sport(s) do you participate in (check all that apply):

- Baseball
- Basketball
- Bowling
- Cheerleading
- Cross Country
- Field Hockey
- Football
- Golf
- Gymnastics
- Hockey
- Lacrosse
- Soccer

- ○ Softball
- ○ Swimming and Diving
- ○ Tennis
- ○ Track and Field
- ○ Volleyball
- ○ Water Polo
- ○ Wrestling
- ○ Other (please specify): _____

Playing Time:

	Strongly Disagree 1	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
I am satisfied with the amount of competitive playing time I get in my sport(s).	○	○	○	○	○

Appendix B. Initial 70 items for the Positive Coaching Inventory (PCI)

The items were developed from the sport and positive psychology literature, specifically focusing on leadership and relational style, motivation, and well-being. Please review each item and rate the quality and relevancy of each item in defining the construct of positive coaching using a scale from 1-5 (1=bad; 5=great). If the item is not clear or if it could be reworded, please provide an alternative suggestion. Lastly, consider if additional items need to be generated to better reflect the positive coaching construct. Please provide those additional items at the end of this document. Some of the items on this initial list are worded similarly, and if items are too similar, let me know which item(s) should be deleted. The goal is for the PCI to be between 35-50 items when conducting the initial EFA.

Item	Rate (1-5)	Is it clear? (Yes or No)
1. I perform better after a coach yells at me for making a mistake. (Reverse scored)		
2. I prefer a coach that praises my effort rather than my ability.		
3. It is important that the coach acknowledge an athlete's achievements.		
4. It is important to be respected by the coach.		
5. I need to feel accepted by the coach.		
6. I need to feel appreciated by the coach.		
7. The coach should motivate with constructive feedback rather than punishment.		
8. It is important that the coach help me identify clear performance goals.		
9. It is important for me to be trusted by the coach.		
10. It is important that I feel emotionally connected to the coach.		
11. The coach should create a fun environment.		
12. I value a coach that cares about how I am doing outside of the sport experience.		
13. The coach should model positive character.		
14. The coach should focus more on an athlete's strengths than weaknesses.		
15. It is important that the coach makes me feel valued as a person.		
16. The coach should collaborate with their athletes to set goals.		
17. It is important that the coach develop caring relationships with athletes.		
18. I value a coach who is an optimistic leader.		
19. The coach should be open to hearing feedback about their coaching style from athletes.		
20. I feel more motivated after a coach acknowledges when I have been making progress.		

21. The coach should come to practices and games with a positive attitude.		
22. I believe that the coach should create a cooperative sport environment.		
23. I value a coach who does not motivate through fear.		
24. I value a coach who cares about my well-being.		
25. I value a coach who can help me to recognize my strengths.		
26. The role of the coach is to model how to cope effectively with challenges.		
27. It is okay for the coach to be persistently critical of athletes. (Reverse scored).		
28. I feel more motivated when the coach is confident in me.		
29. It is important to have good communication with the coach.		
30. The coach should focus more on an athlete's effort rather than winning.		
31. It is important that the coach values the relationships with his/her athletes.		
32. The coach should serve as a positive mentor to athletes.		
33. A good coach focuses on mastery of skills.		
34. I prefer a coach who takes time to help me develop mental and physical skills.		
35. The coach should value the personal development of the athlete.		
36. The coach should value the opinions of the athlete.		
37. A good coach can adjust their communication style to fit the personality of the athlete.		
38. I feel more motivated when I know that the coach believes in me.		
39. I value a coach that expresses gratitude toward his/her athletes.		
40. The coach should consistently acknowledge an athlete's progress.		
41. It is important that the coach encourage athletes to follow the ethics of the sport.		
42. A coach has the responsibility to teach valuable life skills.		
43. I value a coach who builds a sense of community among teammates.		
44. It is important that the coach show a commitment to integrity.		
45. I want to play for a coach who emphasizes winning at all costs. (Reverse scored)		
46. I value a coach who makes every athlete feel like they are important to the team.		
47. It is important that a coach clearly communicate a set of core values for the athlete to follow.		

48. I believe that the coach should listen to an athlete's suggestions for improving the sport experience.		
49. I prefer a coach who inspires a strong sense of purpose for his/her athletes.		
50. The coach should motivate by providing critical feedback in front of teammates. (Reverse score)		
51. The coach should motivate by praising an athlete in front of teammates.		
52. I am motivated by a coach that consistently challenges me to improve.		
53. A main role of the coach is to lead a team toward a common mission.		
54. It is important that a coach makes me feel like I belong.		
55. It is important that a coach collaborate with the athlete(s) to establish team standards.		
56. I believe that the coach should help athletes to identify personal values.		
57. It is important that the coach help athletes anticipate ways to deal with obstacles.		
58. A coach should provide positive instructional feedback.		
59. It is okay for the coach to curse at athletes as a means to motivate. (Reverse score)		
60. It is acceptable for a coach to encourage cheating if it leads to a win. (Reverse score)		
61. I prefer to play for a coach who encourages trash talk. (Reverse score)		
62. It is acceptable for the coach to use excessive discipline/punishment when a player makes a mistake. (Reverse score)		
63. It is acceptable for the coach to be disrespectful toward athletes in order to get athletes to perform better. (Reverse scoring)		
64. The coach should lead by a commitment to serving their athletes.		
65. I perform worse when a coach only focuses on the mistakes that I have made.		
66. The coach should involve athletes in important decisions that impact the team.		
67. I prefer a coach who can remain composed when things are not going well.		
68. The coach should focus more on improvement in performance rather than the results of a competition.		
69. The coach should provide athlete's with guidance on how to let go of performance mistakes.		
70. A coach should enhance an athlete's self-confidence.		

Appendix C. The 54-Item Positive Coaching Inventory (PCI)

Below is a list of items that describe coaching behaviors. Think about the following questions as it relates to how you most want to be coached. Please read carefully the statements below and select the answer that indicates whether you agree or disagree. There are no right or wrong answers.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I prefer a coach that praises my effort rather than my ability.	1	2	3	4	5
2. It is important that I feel accepted by the coach.	1	2	3	4	5
3. It is important that the coach remains fully committed to the team after defeat.	1	2	3	4	5
4. I prefer that the coach focuses more on my strengths than weaknesses.	1	2	3	4	5
5. It is important for me to be trusted by the coach.	1	2	3	4	5
6. I value a coach who is an optimistic leader.	1	2	3	4	5
7. I prefer that the coach provides specific correctional feedback to help me improve my skills and performance.	1	2	3	4	5
8. It is important that the coach creates a cooperative team environment.	1	2	3	4	5
9. I prefer that the coach comes to practices and games with a positive attitude.	1	2	3	4	5
10. I want to play for a coach who emphasizes winning at all costs.	1	2	3	4	5
11. It is important that I feel appreciated by the coach.	1	2	3	4	5
12. I value a coach who builds a sense of community among teammates.	1	2	3	4	5
13. It is acceptable for a coach to encourage cheating if it leads to a win.	1	2	3	4	5
14. I value a coach who does not motivate through fear.	1	2	3	4	5
15. I prefer a coach who can remain composed when things are not going well.	1	2	3	4	5
16. It is acceptable for the coach to be disrespectful toward an athlete in order to get the athlete to perform better.	1	2	3	4	5

17. I value a coach who makes every athlete feel like they are important to the team.	1	2	3	4	5
18. I prefer to play for a coach who encourages trash talk to humiliate the opponent.	1	2	3	4	5
19. It is important that the coach inspires a strong sense of shared purpose within the team.	1	2	3	4	5
20. I value a coach who can help me to recognize my strengths.	1	2	3	4	5
21. It is important for the coach to model how to cope effectively with adversity.	1	2	3	4	5
22. I prefer that the coach creates a training environment where failure is seen as an opportunity for growth and learning.	1	2	3	4	5
23. It is important that the coach serves as a positive role model.	1	2	3	4	5
24. I value a coach who focuses on helping me to master athletic skills.	1	2	3	4	5
25. It is important that a coach makes me feel like I belong.	1	2	3	4	5
26. It is important that the coach values the relationships with his/her athletes.	1	2	3	4	5
27. It is important that the coach focuses more on improvement rather than winning.	1	2	3	4	5
28. I am motivated by a coach that consistently challenges me to improve.	1	2	3	4	5
29. It is important that the coach values my personal development.	1	2	3	4	5
30. It is important to be respected by the coach.	1	2	3	4	5
31. It is important that the coach consistently acknowledges the progress I have been making.	1	2	3	4	5
32. It is acceptable for the coach to use excessive discipline/punishment when an athlete makes a mistake.	1	2	3	4	5
33. It is okay for the coach to be persistently critical of an athlete.	1	2	3	4	5
34. It is important that a coach focuses more on an athlete's effort rather than winning.	1	2	3	4	5
35. It is important that the coach makes me feel valued as a person.	1	2	3	4	5
36. It is important that the coach shows a commitment to integrity.	1	2	3	4	5

37. It is important that the coach clearly communicate a set of core values for the team to follow.	1	2	3	4	5
38. It is important that the coach values the opinions of the athlete.	1	2	3	4	5
39. It is important that the coach models good sportsmanship.	1	2	3	4	5
40. It is important that the coach helps me to identify personal values.	1	2	3	4	5
41. I value a coach who acknowledges when I have been working hard to excel at my sport.	1	2	3	4	5
42. I value a coach who cares about my well-being.	1	2	3	4	5
43. I perform better after a coach yells at me for making a mistake.	1	2	3	4	5
44. I prefer a coach who takes time to help me develop mental and physical skills.	1	2	3	4	5
45. I prefer a coach who provides me with positive instructional feedback.	1	2	3	4	5
46. I value a coach who cares about how I am doing outside of the sport experience.	1	2	3	4	5
47. I feel more motivated when I know that the coach believes in me.	1	2	3	4	5
48. I value a coach who involves athletes in important decisions that impact the team.	1	2	3	4	5
49. I perform worse when a coach only focuses on the mistakes that I have made.	1	2	3	4	5
50. It is important that the coach develops a supportive and encouraging relationship with me.	1	2	3	4	5
51. It is important that the coach provides me with guidance on how to let go of performance mistakes.	1	2	3	4	5
52. It is important that the coach helps me to set clear training goals so that I can improve my athletic skills.	1	2	3	4	5
53. It is important that the coach acknowledges my achievements.	1	2	3	4	5
54. It is important that the coach collaborates with the athletes to establish team rules/expectations.	1	2	3	4	5

Appendix D. The Positive Coaching Inventory (PCI)

Below is a list of items that describe coaching behaviors. Think about the following questions as it relates to how you most want to be coached. Please read carefully the statements below and select the answer that indicates whether you agree or disagree. There are no right or wrong answers.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. It is important that I feel appreciated by the coach.	1	2	3	4	5
2. I value a coach who makes every athlete feel like they are important to the team.	1	2	3	4	5
3. It is important that a coach makes me feel like I belong.	1	2	3	4	5
4. It is important that the coach values the relationships with his/her athletes.	1	2	3	4	5
5. It is important that the coach makes me feel valued as a person.	1	2	3	4	5
6. It is important that the coach helps me to identify personal values.	1	2	3	4	5
7. I value a coach who acknowledges when I have been working hard to excel at my sport.	1	2	3	4	5
8. I value a coach who cares about my well-being.	1	2	3	4	5
9. I prefer a coach who takes time to help me develop mental and physical skills.	1	2	3	4	5
10. I prefer a coach who provides me with positive instructional feedback.	1	2	3	4	5
11. I feel more motivated when I know that the coach believes in me.	1	2	3	4	5
12. I value a coach who involves athletes in important decisions that impact the team.	1	2	3	4	5
13. It is important that the coach develops a supportive and encouraging relationship with me.	1	2	3	4	5
14. It is important that the coach provides me with guidance on how to let go of performance mistakes.	1	2	3	4	5
15. It is important that the coach helps me to set clear training goals so that I can improve my athletic skills.	1	2	3	4	5

Vita

Brett Woods was born in Kansas City, Missouri. He was raised in Shawnee, Kansas where he spent 18 years profiting from the wisdom of his parents (Gwen and Harvey), sister (Kristin), and brother-in-law (Brent). Brett enrolled at Baker University as a psychology major in Baldwin City, Kansas. He was also a four year participant on the Baker football team. He graduated Summa Cum Laude from Baker in 2008 with a Bachelor of Science in psychology and minor in English. He found his passion in sport psychology while attending Baker.

At the urging of his undergraduate mentor, Dr. Wendi Born, Brett applied for, and was accepted to, the Master's in Career and Sport Psychology program at the University of Missouri. Under the guidance of Drs. Joseph Johnston and Richard McGuire, Brett identified his career calling in the mental health and sport psychology fields.

Brett completed his Master's of Education in Career and Sport Psychology in 2011. Shortly thereafter, he began the Ph.D. program in Counseling Psychology with a subspecialty in Sport Psychology at the University of Missouri. As a doctoral student, he served as a graduate sport consultant intern for the MU baseball team and worked as a graduate assistant in the MU Student Health Center—where he used biofeedback for peak performance and stress management. He also spent three years honing his therapeutic skills at the MU Counseling Center.

Brett's professional research and clinical interests include: assisting in the programmatic development of the strengths-based, positive psychology approach in coaching, attending to the career and psychosocial needs of student-athletes, and implementing preventative interventions to reduce substance abuse among student-athletes. He was awarded the Joseph A. Johnston Research Scholarship in Career Development in 2014, which helped fund his dissertation.