AN ABSTRACT OF THE THESIS OF

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Title: The Effects of a Coaching Education Program on Coaching Efficacy of Volunteer Youth Soccer Coaches

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There is a dearth of research examining the impact of coaching education programs on youth volunteer coaches' efficacy levels. The purpose of this study was to examine the effect of participation in a coaching education program on volunteer youth soccer coaches' coaching efficacy. Volunteer youth soccer coaches (N=87) served as the participants in this study. The participants enrolled in the United States Soccer Federation (USSF) coaching education course which consisted of 18 hours of training. The Coaching Efficacy Scale, or CES, questionnaire was the instrument employed to measure coaching efficacy levels. Participants completed CES questionnaires prior to and immediately after completing the course. The CES examined how confident participants were in influencing the development of their athletes in four interrelated aspects coaching: strategy efficacy, motivation efficacy, technique efficacy, and character building efficacy. Results from a paired samples t- Tests revealed a number of important findings related to the effect of coaching education programs. There was a significant increase in total coaching efficacy (TCE) and on all four sub dimensions (i.e. game strategy, technique, motivations, and character building efficacy) as measure by the CES.

The results add credence to the assertion that coaching education, specifically the USSF Level One course, is a significant source of coaching efficacy. Implications of these findings for future research into the effect of coaching education preparation are discussed.

THE EFFECTS OF A COACHING EDUCATION PROGRAM ON COACHING EFFICACY OF VOLUNTEER YOUTH SOCCER COACHES

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CHAPTER ONE

INTRODUCTION

Youth Sports

In the United States, youth sport has evolved from informal play toward more structured adult-led activities and programs (American Academy of Pediatrics, 2001). This transformation has led to the development of a more formalized and organized approach to youth sport (Frankl, 2007). The opportunity for American youth to participate in organized sports is nothing short of copious. These opportunities range from highly organized competitive programs, such as Amateur Athletic Union (AAU) basketball to neighborhood recreational soccer league programs that welcome all participants regardless of ability. Although difficult to determine the exact number, studies estimated there are between 35 and 40 million American youth participating in various organized youth sports led by volunteers (Ewing, Seefeldt, & Brown, 1996; Trickey, 2006).

Parents regard youth sports as an opportunity for their child to engage in regular activity and, as a result, profit from the health-related benefits resulting from being more physically active (Beets & Pitetti, 2005; Bergron, 2007; Hedstrom & Gould, 2004). Although not without its critics, the consensus within the existing body of literature is that regular participation in age-appropriate and safe youth sport programs can result in a variety of physiological, psychological, and social development benefits (American Academy of Pediatrics, 2001; Bergron, 2007; Ewing, Seefeldt & Brown, 1996).

However, the health-related and health-enhancing benefits resulting from participation in youth sports are not "guaranteed through mere participation. Evidence indicated that the quality of adult leadership is a key factor in maximizing positive effects" (Hedstrom & Gould, 2004, p. 3). At the youth sport level, volunteer coaches are, without doubt, one of the key "adult leaders." Without the effort, talent and energy invested by adult volunteers the organizational structure of youth sports in America would not be able to function effectively. One of the most relied upon of all volunteers was the youth sport coach (Wiersma & Sherman, 2005). Although there are purported to be over three million adult volunteer coaches involved at all levels of youth sport (Gerdy, 2000; Martens, 1984; National Alliance for Youth Sports, 2010), the vast majority of these volunteer coaches have not received the fundamental training required to effectively fulfill the role of the youth sport coach (Weirsma & Sherman, 2005).

Access to certified coaches in organized youth sports was an important factor in providing a positive and nurturing experience (American Academy of Pediatrics, 2001). Studies showed that youth sport leadership was a factor that influenced drop out in youth sports (Gould, Feltz, Horn & Weiss, 1982). The influential role of the volunteer youth sport coach was highlighted by a recent survey conducted by the National Alliance for Youth Sport (2008), which revealed that 48% of children (of the 2000 parents, coaches and administrators surveyed) quit playing youth sports as a result of a poor experience with the coach. These results reiterated the commonly held belief that volunteer coaches have the capacity to significantly impact the development, participation, and sports experience of young athletes.

Role of youth sport coaches. The consensus within the coaching literature was that the athlete experience was significantly affected by the coach (Feltz, Hepler, Roman, & Paiement 2009; Horn, 2002; Petitpas, Cornelius, Van Raalte, & Jones, 2005). Volunteer coaches are considered to be the cornerstone of youth sports because their behavior, actions and decisions had long-term effects on the future participation, attitudes, and development of their athletes (Feltz, Short, & Sullivan, 2008; Kowalski, et al., 2007). Depending on the level, a coach is responsible for teaching technical skills, tactical game strategies, and motivating athletes. The consensus within coaching literature was that coaches can significantly affect the physiological, social, personal, and psychological development of their young athletes (Feltz, Hepler, Roman, & Paiement 2009; Horn, 2002; Petitpas, Cornelius, Van Raalte, & Jones, 2005). Therefore, coaches were profoundly influential in the learning and development of their athletes (Feltz et al., 2008).

Prior to assuming the role as coach, parents hoped that coaches have received formal training in teaching fundamental technical skills, game strategy, and possess a basic understanding of the social and psychological development of youth athletes. Unfortunately, this was not always the case as the "majority of coaches are people whose only credentials are being parents, liking children, or have an interest in sport" (Clark, 2000, p. 55).

Education of youth sport coaches. Although many volunteer coaches are provided with educational opportunities, the majority did not participate (Weis & Hayashi, 1996). Research indicated that the majority, as high as 90% of volunteer coaches, have received no official training in fundamental coaching techniques or injury

care of prevention (Clark, 2000; Partlow, 1995; Seefeldt, 1992; Sieget & Newhof, 1992). These figures were disconcerting, especially when "qualified coaches in organized sports can be a key factor in providing safety and a positive experience" (American Academy of Pediatrics, 2001, p. 2). Increased awareness of the critical role of volunteer coaches in youth sports has resulted in the development of nation-wide standardized coaching education programs (Campbell, 1993; Wade & Pierre, 1999).

Over the last two decades, there has been a growing interest in coaching education and the potential benefits of learning from more experienced coaching education instructors (Cushion, Armour, & Jones, 2003; Gilbert & Trudel, 2001; Irwin, Hanton, & Kerwin, 2004). Researchers acknowledged the significant influence coaching education programs had on coaching efficacy (Campbell & Sullivan 2005; Lee, Malete, & Felz, 2002; Malete & Feltz, 2000; Malete & Sullivan, 2009) and enhancements in overall quality of coaching (Vargas-Tonsing, 2007). One author declared coaching education programs to be the most effective method of increasing coaching efficacy and competency (Woodman, 1993). Formal coaching education was often viewed as a means through which coaches could increase their education and knowledge of their sport. It is plausible to suggest that the more knowledgeable and educated the coach, the more likely they are to positively influence the learning and development of their athletes.

Despite being aware of the benefits of standardized coaching education programs, relatively few programs mandated that coaches attend educational courses (Clark, 2000). The current state of affairs reiterated the need to revisit the National Standards for Athletic Coaches (NSAC) declaration to mandate the education of coaches to obtain, at a minimum, the first level of competency (National Association for Sports and Physical

Education [NASPE], 1995). Mandating a coaching course may help to ensure that coaches at least attend some form of formal education prior to assuming the role as coach. Some national governing bodies mandated that coaches attend an educational course as a prerequisite to coaching. Two countries, in particular, that have been acknowledged for their integrated coach education infrastructure are Australia (i.e. Australian Sports Commission [ASC]) and Canada (i.e. Coaching Association of Canada [CAC]). The model adopted by both these national governing bodies involved the integration of three key components; pedagogical knowledge, sports-specific technical skill development, and practical assessment of participants (Campbell, 1993). Studies indicated that this integrated approach to coach education was effective (ASC, 2001).

However, the mere mandating of a coach education course does not necessarily mean that the course is effective. There is a lack of research investigating whether formal training programs designed to educate coaches significantly affects the coaches' competence and confidence. Moreover, there is a dearth of empirical research examining the effectiveness of standardized coach education programs and coaching effectiveness in a field based setting (Gilbert, 2006).

To be successful, volunteer coaches, similar to all volunteers, require education, guidance and training pertaining to the role they are being asked to fulfill within the organization. Research indicated standardized coach education programs can positively affect a coach's efficacy levels (Campbell & Sullivan, 2005; Malette & Feltz, 2000). This is significant because research indicated high self-efficacy coaches, in contrast to coaches with low self-efficacy levels, were considered to be more effective. This is based on research that showed coaches with high self-efficacy levels were often more encouraging,

provided more positive feedback, had higher winning percentages, and had athletes who were more satisfied with their overall sports experience (Feltz, Chase, Moritz, & Sullivan, 1999).

Coaching effectiveness and coaching efficacy. As a result of the considerable influence volunteer youth sport coaches have on the development of young athletes, it is crucial for youth sport organizations to develop a deeper understanding of those who serve as volunteer youth coaches (Feltz et al., 2009). It is judicious for the governing bodies of youth sport to examine the factors that influence their behavior and identify ways to make youth sport coaches more effective in their role. Effective coaching behavior is described as that which produces desirable outcomes (e.g. performance, self-esteem, enjoyment) for athletes. Others have described coaching effectiveness as "the extent to which coaches can implement their knowledge and skill to positively affect the learning and performance of their athletes" (Boardley, Kavussanu, & Ring, 2008, p. 271).

According to the coaching effectiveness model devised by Horn (2008), coaches' behavior was impacted by self-perception, which in turn can affect athlete perceptions and performance. While there are many variables that influenced coaching effectiveness, research suggested coaching behavior and effectiveness may be significantly influenced by a coach's level of self-efficacy toward coaching (Feltz, 1999; Myers, Vargas-Tonsing, & Feltz, 2005). Specifically, "the positive athlete-related outcomes associated with coaching efficacy indicate that highly efficacious coaches may also be more effective coaches" (Kavussanu, Boardly, Jutkiewicz, Vincent, & Ring, 2008, p. 384). Given that coaching efficacy was postulated to positively affect coaching effectiveness and athlete

outcomes, it would be sagacious for youth sport organizations to develop a deeper understanding of its sources and examine ways to increase the efficacy levels of coaches.

Self-Efficacy Research Review

Prior to examining the literature pertaining to self-efficacy and its sphere of influence in field of coaching, it would be judicious to provide a concise definition of the term self-efficacy and a succinct review of research into self-efficacy. A significant amount of research has been conducted, across various disciplines (e.g. business, education, and sport), to further the understanding of self efficacy. Most of this research builds on Albert Bandura's (1977; 1997) theory of self-efficacy, which was devised within the construct of the social cognitive theory.

Self- efficacy is often subdivided into two categories; general self-efficacy and specific self-efficacy. General self-efficacy refers to people's belief (confidence) about their competence to complete general tasks and challenges in a variety of situations (Bandura, 1994; Bandura 1997; Luszczynska, Gutie´rrez-Don, & Schwarzer, 2005). Specific self-efficacy refers to "situation specific confidence" a person has in his/her capabilities to achieve successfully a particular goal (Campbell & Sullivan, 2005).

It is important to clarify that self- efficacy beliefs refer to the perception or judgment of what can be accomplished with one's ability (e.g. I think I can score the penalty kick against my opponent in soccer) and not the existing skill set one possess (e.g. I have excellent shooting technique in soccer) (Bandura, 1997; Feltz et al., 2008). To be successful in sport, athletes need to posses not only the technical skills necessary to complete a sport-specific task, but they must also possess sufficient levels of self-efficacy (confidence) to execute the required skill under game conditions.

Although it does not guarantee success, high levels of self-efficacy (confidence) in one's ability to successfully complete a specific task was thought to ignite powerful psychological process that positively influenced the outcome (Syed, 2010). The "level of self-efficacy (or magnitude) refers to people's expected performance attainment at different levels of difficulty" (Feltz et al., 2008, p.6). Research supported the premise that the perceived level of self-efficacy in one's abilities influenced ensuing behaviors, thoughts, attitudes, and performance (Bandura, 1994; Campbell & Sullivan, 2005).

Sources of self-efficacy. Although self-efficacy is thought to be influenced by a variety of variables (e.g. perceived task difficulty, energy expenditure, and quality of instruction), research suggested that self-efficacy was affected by four main sources: verbal feedback, performance outcomes, vicarious experience, and psychological state (Bandura, 1977). Research indicated that of these four sources, previous performance outcomes have the most significant influence on self-efficacy levels (Bandura, 1997). In other words, a successful performance resulted in a positive self-appraisal of performance, and consequently increased levels of self-efficacy. In contrast, a poor performance often resulted in a negative self-appraisal, and therefore, decreased self-efficacy levels (Chu & Tingzon, 2009).

Research on Self-Efficacy in Sport

The concept of self-efficacy has been extensively investigated in the field of sport (Moritz, Feltz, Kyle & Mack, 2000). Self-efficacy, which refers to an individual's belief in his/her ability to perform a specific task, was considered a powerful psychological agent that influenced performance (Feltz, 1988). Athletes with high levels of self-efficacy were often more confident in their ability to perform, were less fearful of pursuing

challenging goals, and possessed better coping mechanism for dealing with setbacks than athletes with low levels of self-efficacy. Athletes with low levels of self-efficacy had lower expectations, gave up more easily when confronted with difficult tasks, focused on negative outcomes and tended to lose confidence in their abilities more easily (Bandura, 1994; Feltz et al., 2008).

The concept that previous performance was a significant source of self-efficacy was supported by field studies researching the self-efficacy-performance relationship in athletes. Results from a path-analytical study of intercollegiate baseball players revealed that successful performance resulted in higher levels of self-efficacy and lower levels of competitive anxiety. In turn, higher levels of self-efficacy resulted in athletes exerting greater effort and increased batting performance (George, 1994). These results were not isolated to male athletes.

In a study of 178 female athletes during participation in multiple sports events, Hanley and colleagues (1995) found that athletes with higher levels of self-efficacy often displayed more successful performance. Results from a study examining the performance of 216 competitive wrestlers in a competitive setting found self-efficacy to be only significant predictor of performance during the final, often critical, stages (i.e. overtime) of competitive performance (Kane, Marks, Zaccaro, & Blair, 1996). Therefore, there is a well-established and significant link between self-efficacy and performance. Research into athlete performance suggested self-efficacy levels increased as a result of successful performance. Conversely, failure or unsuccessful performance often resulted in lowering self-efficacy (Chu & Tingzon, 2009). The powerful influence of self-efficacy on one’s actions, behavior and performance are not limited to the realm of athletics.

Research on Self-Efficacy in Education

The effects of self-efficacy has also been examined in the field of education, most of which builds upon the original research conducted by the RAND corporation foundation (Armor et al., 1976). The concept of measuring teachers' level of self-efficacy, often referred to as "teaching efficacy", has received considerable attention. Teaching efficacy refers to the extent to which teachers believe they have the ability to affect the learning and performance of their students in the classroom (Denham & Michael, 1981). Research into teaching performance revealed there was a significant correlation between efficacy levels and teaching performance student achievement (Anderson, Greene, & Loewen, 1988; Ashton & Webb, 1986; Denham & Michael, 1981; Gibson & Dembo, 1984).

Research into the teaching profession revealed that self-efficacy levels influenced teaching behavior and effectiveness (Denham & Michael, 1981). More specifically, the level of self-efficacy a teacher possessed impact his/her psychological and emotional state as well as his or her goal setting ability, which can inadvertently impact student learning and expectation levels (Ashton & Webb, 1986). Studies also showed that teaching efficacy levels influenced commitment levels to teaching (Coladarci, 1992) and, as a result, the amount of time a teacher spent instructing in the classroom (Gibson & Demo, 1984). Moreover, and similar to the research pertaining to athletes, a teacher's self-efficacy impacted his/her ability to cope with setbacks and persevere through unsuccessful situations (Gibson & Demo, 1984). More pertinent to the nature of this study was the premise that teacher's level of self-efficacy can influence student

performance. Research showed high efficacious teachers developed students who displayed higher levels of accomplishment in the classroom (Ashton & Webb, 1986).

According to Ashton (1984), teachers who possessed high self-efficacy levels often displayed greater levels of positive behavior toward their profession, were more accountable for students' academic learning and performance, and were more effective in devising strategies to assist students in attaining academic goals. Research also suggested teachers who possessed high levels of self-efficacy regarding their effectiveness displayed greater commitment to student learning (Bandura, 1993). With these discoveries in mind, it is not surprising that student achievement levels would increase as a result of being exposed to teachers with high levels of teaching efficacy.

The influence of self-efficacy on teachers' behavior and effectiveness has stimulated a growing body of literature, over the last decade, in the field of coaching. The parallel roles, characteristics, and responsibilities between a teacher and coach prompted researchers to investigate whether the affects of self-efficacy transferred into the coaching profession. The most notable parallel between the teaching and coaching profession was the element of instruction (e.g., positive reinforcement, task/practice correction, and student/athlete feedback) as it pertains to learning and performance. Based on the teaching efficacy literature, and the well-documented link between efficacy levels, teaching behavior, and student achievement; it is plausible to deduce that self-efficacy could engender similar effects on coaching behavior, effectiveness, and athlete performance. Research over the last decade appears to have supported the premise that, similar to athletes and teachers, the level of self-efficacy a coach possesses influenced the

learning and development of athletes (Feltz, Short, & Sullivan, 2008) as well as coaching effectiveness (Feltz et al., 1999).

Coaching Efficacy Research Review

The concept of measuring coaches' level of self-efficacy, often referred to as "coaching efficacy", has received increasing attention over the last decade. Coaching efficacy has been defined as "the extent to which coaches believe they have the capacity to affect the learning and performance of his/her athletes" (Feltz, Chase, Moritz, & Sullivan, 1999, p. 765). Coaches with high coaching efficacy levels, in contrast to coaches with low coaching efficacy levels, are hypothesized to be more effective because they engender more desirable outcomes for both athletes and coaches.

Studies have shown that highly efficacious coaches often displayed more positive coaching behaviors, offered more positive reinforcement (Feltz et al., 1999) and instruction (Kent & Sullivan, 2003), displayed more commitment to coaching (Kent & Sullivan, 2003), and were more likely to increase player satisfaction levels, performance, and team winning percentages (Myers, Vargas-Tonsing, & Feltz, 2005). Consider positive reinforcement, for example, this can influence the athlete's confidence in their ability to achieve their goals, which can in turn influence the level of effort expended to achieve those goals (Felts, Short, & Sullivan, 2008). Thus, the consensus within the existing body of literature was that coaching efficacy levels can significantly influence coaching behavior, effectiveness, and athlete development.

The coaching efficacy scale (CES). According to Feltz et al. (1999; 2009) there are four interrelated dimensions of coaching efficacy; strategy efficacy, motivation efficacy, technique efficacy, and character building efficacy. Game strategy efficacy

(GSE) pertains to coaches' confidence in their capability to guide, effectively, their team to a successful performance in a competitive setting. Motivation efficacy (ME) pertains to coaches' belief in their ability to effectively impact the psychological state of their athletes during competition. Technique efficacy (TE) refers to the confidence coaches have in their ability to accurately identify technical breakdowns in performance and effectively demonstrate and teach technical skills. Finally, character building efficacy (CBE) refers to the confidence coaches have in their ability to effectively induce positive changes in character traits such as attitude, sportsmanship, respect, and personal development.

In recognition of coaching efficacy being a multidimensional and complex construct, Feltz and colleagues (1999) devised a conceptual model, the Coaching Efficacy Scale (CES), to help measure the four elements of coaching efficacy. This multidimensional model is considered to be a comprehensive tool for measuring efficacy levels, which is why it is referred to as total coaching efficacy (TCE) (Feltz et al., 2009). The CES was based on Badura's (1997) original conceptualization of self-efficacy and parallel research conducted by Denham and Michael's, (1981) on teaching efficacy. The CES is a self-reporting survey with 24 questions, all of which center on the leading question "how confident are you in your ability to…" Each individual question directly relates to one of the four previously discussed dimensions of coaching efficacy. To serve as an example, "make critical decisions during competition" pertains to the subscale of the GS dimension, while "detect skill errors" reflects the subscale of the TE dimension. An example from the CBE subscale is "promote good sportsmanship" and "build team confidence" is one example from the ME subscale. Coaches indicate their degree of

confidence on a 10-point likert scale ranging from 0 (not at all confident) to 9 (extremely confident).

Coaching efficacy outcomes. The growing interest in researching coaching efficacy relates to research discoveries which have indicated that a coach's effectiveness was influenced by coaching efficacy levels (Myers, Vargas-Tonsing, & Feltz, 2005). Research suggested high levels of coaching efficacy resulted in desirable performance outcome for athletes and coaches. High efficacious coaches often developed more successful teams (based on win-loss percentage), provided more positive reinforcement, and had higher levels of player satisfaction than coaches with low coaching efficacy levels (Feltz et al., 1999).

Coaching efficacy has been shown to be significantly linked to ensuing behavior (e.g. participation), attitude (e.g. satisfaction), task performance (Moritz et al., 2000; Sandri & Robertson, 1993), team efficacy (Vargas-Tonsing, Warners, & Feltz, 2003), and commitment to coaching (Kent & Sullivan, 2003). The coaching efficacy model proposed coaching efficacy played a vital role in coaching behavior (Feltz et al., 2009) and that total coaching efficacy was an accurate predictor of team efficacy, team satisfaction and performance (Myers, Vargas-Tonsing, & Feltz, 2005; Vargas-Tonsing et al., 2003). These discoveries have prompted researchers to examine the various sources of coaching efficacy. The results of these studies have helped to further the understanding of the correlation between coaching efficacy and coaching behavior.

Sources of coaching efficacy. According to the initial research conducted by Feltz and colleagues (1999), there were multiple variables that may have influenced coaching efficacy. These sources included coaching experience and preparation (which

included coaching education), prior success (e.g. win-loss record), perceived athletic ability, and perceived social support from the local community and parents. The number of years of coaching and a coach's success (won-loss record) were found to be significantly linked to ME and GSE. Furthermore, community support for the coach was significantly linked to GSE, ME and TE as well as total coaching efficacy (Feltz, et al., 1999).

Recent literature validated the sources of coaching efficacy proposed by Feltz and colleagues (1999) initial research. Results from a study comparing male and female intercollegiate coaches indicated that social support was a significant source of efficacy information in female coaches, in contrast to male coaches (Myers et al., 2005). Results from the same study also revealed that coaching efficacy was an accurate predictor of coaching behavior, team satisfaction, and winning percentages in male sports teams.

More recent studies have helped to build on the original sources of coaching efficacy by uncovering additional sources. Descriptive research conducted by Chase, Feltz, Hayashi and Hepler (2005) indicated that other variables, such as athlete improvement, prior coaching experience, coach development and social support were also considered to be significant sources of coaching efficacy. These sources were expanded upon further by recent literature which found that previous playing experience and coaching experience were also significant sources of coaching efficacy (Malete & Sullivan, 2009). Specifically, playing experience and years of coaching experience have been shown to be significant predictor's of technical efficacy (Kavussanu et al., 2008; Malete & Sullivan, 2009), game strategy, and motivation efficacy (Hepler, Feltz, Roman, Paiement, 2007; Malete & Sullivan, 2009). Results from studies involving coaches at the

collegiate level suggested coaching experience was significantly linked to game strategy, motivation, and character building efficacy (Marback, Short, Short, & Sullivan, 2005). The list continues to grow as researchers unearth additional variables proposed to influence coaching efficacy.

From a psychological training perspective, a study by Short and colleagues (2005), which investigated the relationship between efficacy and imagery use (considered to be a form of preparatory cognitive rehearsal), found that imagery may also be an 'effective strategy' to build and maintain coaching efficacy. Specifically, imagery and coaching experience were significant predictors of character building and total coaching efficacy. Other researchers have examined the relationship between emotional intelligence and coaching efficacy. Thelwell and colleagues (2008) found that there was a significant correlation between emotional intelligence and coaching efficacy levels. Concerning the four dimensions of coaching, their research indicated there was a significant correlation between motivational efficacy and the regulation of emotions and social skills. Character building efficacy appeared to be linked with levels of optimism and teaching, while technical efficacy was shown to be linked with appraisal of self-emotions.

Coaching Efficacy at Different Levels of Coaching

While there are various sources of coaching efficacy, Feltz and colleagues (2008) suggested certain sources of efficacy could be more influential than others, at the various levels (e.g. youth, high school, college and professional) of coaching. It is plausible to assume that the demands of the organizational setting and the level of coaching may influence the significance of sources of coaching efficacy. For example, at the higher

levels (e.g. high school, college and professional) of coaching there was often an increased emphasis placed on the outcome (i.e. winning). Coaches working in these settings may have found win-loss record a more pertinent source of coaching efficacy. Moreover, players competing at the higher levels of sport already possessed a solid foundation in their technical and tactical skills. Therefore, the coach may have placed more emphasis on the refinement of established skills, as opposed to the development of new skills or strategies (Feltz et al., 1999).

On the contrary, at the youth sport level, there was, or should have been, a greater value placed on other factors such as developing a love for the game, enjoyment, and fundamental skill development as well as social and moral development. Therefore, sources such as teaching technical efficacy and social support from players and parents may have been more significant sources of coaching efficacy for youth sport coaches (Feltz et al., 2009). Due to the significant influence volunteer youth sports coaches had on the youth sport experience, sources of coaching efficacy for youth sport coaches requires investigation as it may help to identify which sources were most significant. Surprisingly, despite being identified as a powerful influential factor on coaching behavior, research investigating the effects of coaching efficacy on volunteer youth sport coaches is in short supply (Feltz, 2009).

Coach Education Programs and Coaching Efficacy

In addition to the aforementioned sources of coaching efficacy, and more specific to the nature of this study, research has examined the effects of coach education programs on coaching competency and efficacy levels. Some declare coach education programs to be the most effective method of increasing coaching efficacy and competency

(Woodman, 1993).This premise appears to be supported by a growing body of literature which indicated coaches who attended standardized coaching education programs displayed significant increases in coaching efficacy in some (Lee, Malete, & Feltz, 2002) or all aspects of coaching, (Campbell & Sullivan, 2005; Malette & Feltz, 2000). This was significant because, as previously noted, research showed coaches with high levels of coaching efficacy were often more effective in their capacity to affect the learning and performance of their athletes (Feltz et al., 1999).

Coach education courses, by their very nature, are designed to increase a coach's knowledge, understanding of the sport, and as a result, positively impact the learning and development of both coaches and athletes. During educational courses, coaches are often trained how to be more effective coach and are exposed to other components of coaching such as practice management, technical skills training, methods of coaching, and other coaching related topics. It is plausible to assume that the increased knowledge and understanding, obtained from participation in coach education courses, may result in coaches developing more confidence in their ability to affect the learning and performance of his or her athletes.

One of the initial studies, conducted by Malette & Feltz (2000), examined the effect of a 12-hour coach education programs on coaching efficacy levels of high school coaches. This study compared the effects of coach education training on an experimental group of coaches (n=36), compared to a control group of coaches (n=24) who did not participate in a structure coach education program. Results revealed that coaches who received coach education showed moderate, but significant, increases in all four dimensions of coaching efficacy, compared to coaches who did not receive formal

training. However, the increase in coaching efficacy was not equal across all four dimensions of the CES. Results revealed that game strategy and technique efficacy were the two dimensions most significantly impacted by the exposure to coach education training. The authors indicated that exposure to a more comprehensive coach education program may engender more powerful effects on coaching efficacy levels.

Expanding on the North American sample of coaches, Lee, Malete, and Feltz (2002) conducted comparable research by examining 235 male and female coaches in Singapore. Results revealed that coaches who completed formal coach education program demonstrated significantly higher score in specific dimensions of coaching efficacy than coaches who did not complete the coach education course. In particular, coaches who participated in the coach education programs were more efficacious in teaching game strategy and technique efficacy, in contrast to untrained and uncertified coaches. Moreover, a weak gender effect was noted in male coaches who displayed higher game strategy efficacy levels than their female counterparts. More significant results were found in a more recent study (Kavussanu et al., 2008), which also found that male coaches reported higher game strategy efficacy than female coaches.

A more recent study by Campbell & Sullivan (2005) examined the effects of a standardized introductory level (theory only) coaching course on 213 male and female Canadian coaches. The duration of the course was 13.5 hours and was designed as a general introduction to the elementary principles of coaching. Participants were instructed to complete the CES prior to and immediately after the course. Results revealed that there was a significant increase in all four interrelated dimensions of coaching efficacy: technique, strategy, motivation, and character building efficacy.

These results were comparable to findings from previous studies (Malete & Feltz, 2000). Additionally, and similar to previous research (Lee, Malete, & Felz, 2002), there was also a gender effect noted. In this case, females were found to display higher levels of coaching efficacy in regard to character building and motivation than male coaches.

To further accentuate the influence coach education programs have on coaching efficacy, recent research (Malete & Sullivan, 2009) has shown that certified coaches (those who have completed formal coach education or training course) displayed higher levels of coaching efficacy than non-certified coaches. Using the CES questionnaire, this study surveyed a sample of 181 coaches from the Republic of Bostwana, in Southern Africa. Results revealed that coaching efficacy levels were significantly higher in certified coaches than in non-certified coaches; however, in this study, there was only a significant effect in the dimension of technique efficacy.

Results from the aforementioned studies (Malette & Feltz, 2000; Lee, Malete, & Feltz, 2002; Campbell & Sullivan, 2005; Malette & Sullivan 2009) highlight three main findings. First, the results highlight the reliability of coach education programs as a source that can significantly influence coaching efficacy levels. Second, in some cases coach education programs have been shown to impact all four dimensions of coaching efficacy (Campbell & Sullivan, 2005; Lee; Malette & Feltz, 2000), and in other cases, coach education programs have been shown to significantly affect specific dimensions of coaching efficacy (Lee, Malete, & Feltz 2002; Malette & Sullivan 2009). This is important for those who design a coaching education course because, as previously noted, certain sources of efficacy could be more influential than others, at the various levels (e.g., youth, high school, college and professional) of coaching (Feltz et al., 2008).

Thirdly, results from research to date provide support for the cross-cultural validity of the CES construct of coaching efficacy (Malette & Sullivan 2009). Though the empirical research examining coach education as a significant source of coaching efficacy was more limited, the results were consistent (Feltz et al., 2009).

Evaluating coach education programs. In an attempt to better prepare, train, and equip volunteer coaches, some youth sport organizations (e.g., United States Soccer Federation, 2001) require their coaches to attend an obligatory coaching education course (Clark, 2001). As indicated earlier, the consensus within the coaching literature was that well-designed coach education programs are a key component in better preparing coaches, especially volunteer coaches with limited knowledge and experience, for the specific demands of sport (Wade & Pierre, 1991; Woodman, 1993). Developing a sport-specific knowledge is thought to be an essential component for facilitating the development of athletes because it is very difficult for coaches to teach or improve sport-specific aspects of performance without possessing a detailed understanding of the sport (Abraham, Collins, & Marindale, 2006).

Without sufficient training and preparation, volunteer coaches are, at best, well-intended parents who have an interest in the sport and desire to help (Clark, 2001). While these are valuable qualities, they are insufficient to prepare youth volunteer coaches for the multitude of challenges presented by youth sports. All youth sport organizations must examine the coach education programs they offer their coaches to establish if they are serving their intended purpose of significantly improving the efficacy levels and, as a result, effectiveness of youth sport coaches. Volunteer coaches assume a critical role in the development of youth athletes; therefore youth sport organizations must be certain

their coach education programs positively affect the confidence and competence level of the coach (Wade & Pierre, 1999).

Coaching education programs in the sport of soccer. As a result of the increased participation levels in youth sports in America and growing awareness of the important role of youth sport coaches (Horn, 2002), many sports organizations have implemented well-developed nation-wide coached education programs (Wade & Pierre, 1999). One such program, the United States Soccer Federation (USSF), has a 38-year tradition of certifying coaches in the sport of soccer, at various levels throughout the United States. The USSF is recognized as one of the leading authorities in coach education in the United States. The USSF provides a standardized nation-wide coach education program with seven different levels of certification and is committed to providing soccer coaches with contemporary theoretical and practical knowledge (Appendix A). Each level is designed to meet the needs of coaches ranging from novice volunteer coach to coaches desiring to become professionally certified to coach in top-level professional and international competitions (USSF, 2001-2005).

In many state soccer associations, the USSF requires coaches to complete the Level one course (i.e., E license course), prior to assuming a volunteer coaching role with a soccer organization. The USSF Level One course is an entry-level course designed specifically for volunteer youth soccer coaches. This course is considered critical because it is the foundation on which all remaining courses are built upon. Therefore, it would be judicious to evaluate this course to ensure that it is serving its intended purpose of improving the competence and confidence (coaching efficacy) of the coaches obligated to participate in it.

The USSF Level One course entails both practical and theoretical components. The course is administered over a three (3) day period. Each course is 18-hours in duration. The course is designed by the USSF and is recognized by the Fédération Internationale de Football Association (FIFA). FIFA is the international governing association of the sport of soccer, also called football. According to USSF (2001), the Level One course:

> is designed for the novice coach who may or may not have any previous soccer playing or coaching experience. The course curriculum focuses on the development of the player, both individually and as part of the team. Emphasis is placed on the player's technical development by applying tactical concepts within game situations. (p. 9)

Additionally, during the completion of the course, coaches' review the course coaching manuals, which addresses other pertinent components of coaching; methods of coaching, team management and administration, technical and tactical aspects of player development, care and prevention of sports injuries, laws of the game, among others. The traditional format for the course is a three day weekend (Friday through Sunday) program with four contact hours on Friday, seven contact hours on Saturday and seven contact hours on Sunday. Certification requirements for successful completion of the course are attendance at all field and classroom sessions.

Coaching education program and the coaching efficacy scale. Components of the USSF Level One license germane to the four dimensions of the CES include the role of the coach, laws of the game, components of coaching soccer, and psychological development of athletes. The role of the coach and laws of the game segment of the

course concentrate on developing an understanding and respect for the laws of the game, sportsmanship toward opponents and officials, and safe and fair competition, as well as and provides guidelines and tools for coaches to develop the overall athlete. These themes should deepen coaches understanding of how to develop the character building efficacy of athletes.

To develop technical efficacy and game strategy, the Level One license course offers ten hours of practical field sessions designed specifically to enhance technical and tactical (i.e., game strategy) skill development. These practical sessions help educate coaches on soccer specific technical skill training, practice planning, and instruction on game tactics and strategies. During these sessions, coaches are used as the participants to execute the field sessions and are encouraged to exchange their ideas and experiences about training methodology and skill development. Therefore, in addition to specialized instruction on the components of coaching soccer, the participants are provided with the opportunity to learn from fellow participants.

To develop motivation efficacy, USSF provides instruction on psychological development from an athlete perspective. This component of the course provides instruction on the importance of constructing a positive environment that motives athletes to learn, understanding that all athletes have different psychological needs and participate for varying reasons, factors that influence participation, the importance of positive feedback, and the importance of playing time. Emphasis is placed on the importance of being a positive role model, recognizing positive ‘coaching moments’ and using these to reinforce positive skill or behavioral performance. Theoretically, the USSF coaching course topics are pertinent to the four dimensions of the CES.

Rationale for the Present Study

While the existing literature supported the significant correlation between coach education and coaching efficacy, surprisingly there remains a scarcity of research investigating the impact of coach education programs, specifically in the sport of soccer, on the efficacy levels of volunteer youth soccer coaches (Feltz et al., 2009).

A large portion of the research has centered on high school (Fung, 2003; Malete & Feltz, 2000) and college coaches (Myers, Vargas-Tonsing, & Feltz, 2005), with only minimal attention given to the coaching efficacy of volunteer youth sport coaches (Feltz et al., 2009). This is regrettable given that are more than two million volunteer coaches involved at all levels of youth sport (Clark, 2001; Martens, 1984; National Alliance for Youth Sports, 2010) all of which play a critical role in the youth sport experience and future participation of young athletes.

Though research has shown that certain coach education courses (Malette & Feltz, 2000; Campbell & Sullivan, 2005) achieve their objectives of increasing efficacy levels in all four dimensions of coaching efficacy; other coach education programs appear to impact only specific dimensions (Lee, Malete, & Feltz, 2002; Malete & Sullivan, 2009). At the youth sport level, governing bodies must identify the sources of coaching efficacy in volunteer youth sport coaches and subsequently design programs that raise the performance of volunteer coaches by increasing their coaching efficacy levels. As previously noted, the source of coaching efficacy may differ for volunteer youth sports coaches and those coaches working and higher levels (Feltz et al., 2009).

Therefore, all coach education programs, designed to educate youth sport volunteer coaches, must be examined to establish if they are serving their intended

purpose of raising efficacy levels of volunteer youth sport coaches. Although the relationship between coach education programs and coaching efficacy has been investigated in a variety of sports environments (Campbell & Sullivan, 2005; Feltz et al., 1999; Fung 2003; Lee, Malete, & Feltz, 2002; Malete & Feltz, 2000) many well-established coaching education programs have yet to be examined.

To the author's knowledge, there is no research to date that has specifically examined the effect of coach education programs on volunteer youth coaches, specifically in the sport of youth soccer in the United States. The dearth in research is surprising, especially when one considers there are more than three million youth soccer players in the United States (Gerdy, 2000). What is even more surprising is that in over 30 years of offering a comprehensive nation-wide coach education program, no one has examined whether or not the courses serve their intended purpose. From a coach development perspective, understanding the sources of coaching efficacy and factors influencing this psychological component of coaching is critical to the successful design of coach education programs (Fung, 2003).

Purpose of study

Accordingly, the present study sought to extend the existing body of literature by investigating the effects of the United States Soccer Federation's (USSF) introductory Level One coaching course on coaching efficacy levels in volunteer male and female soccer coaches. The purpose of this study was to examine whether this particular coach education program served its intended purpose by significantly increasing coaching efficacy levels in volunteer youth soccer coaches.

Hypotheses

I investigated the following hypotheses in the research on the effects of coach education programs on volunteer youth soccer coaches:

Hypotheses One: The post-test total Coaching Efficacy Score (CES) will be significantly higher relative to the pre-test total CES score.

Hypotheses Two: The post-test total Game Strategy Efficacy (GSE) scores will be significantly higher relative to the pre-test total GSE score.

Hypotheses Three: The post-test total Motivation Efficacy (ME) will be significantly higher relative to the pre-test total ME score.

Hypotheses Four: The post-test total Technique Efficacy (TE) will be significantly higher relative to the pre-test total TE score.

Hypotheses Five: The post-test total Character Building Efficacy (CBE) will be significantly higher relative to the pre-test total CBE score.

CHAPTER TWO

METHODS

Participants

Volunteer youth soccer coaches who coached in Midwestern soccer clubs served as the participants (N=87) in this study. Volunteer soccer coaches are defined as individuals who coached in their local soccer organizations, both head coach or assistant coach of children between the ages of 5-18 years and are not paid a salary (Feltz, Hepler, & Roman, 2009). Participants voluntarily enrolled in the United States Soccer Federation (USSF) entry level, or Level One, coaching course prior to being asked to participate in this study. Participants ranged in age from 19 to 46 years, (M = 24) and had prior experience coaching a variety of sports (e.g. football, volleyball, basketball, swimming), but the majority (n=78) indicated that soccer was the primary (the sport in which they invested the most time) sport that they coached.

Measures

The instrument employed in this study to measure coaching efficacy was the Coaching Efficacy Scale [(CES) Appendix B]. The CES construct has been supported by independent exploratory and confirmatory factor analysis and has a proven reliability, with coefficient alphas ranged from .88 to .91 for the subscales (Feltz et al., 1999).
The CES measures coaching efficacy through a self-reporting survey with 24 questions. Coaches indicate their degree of confidence on a 10-point Likert scale ranging from 0 (not at all confident) to 9 (extremely confident). Each individual question directly relates to one of the four dimensions of coaching efficacy.

The four interrelated dimensions of the CES include: strategy efficacy, motivation efficacy, technique efficacy, and character building efficacy (Feltz et al., 1999; 2009). Game strategy efficacy (GS) was measured through seven questions and pertained to coaches' confidence in their capability to guide, effectively, their team to a victorious performance. Motivation efficacy (ME) was measured by seven questions and pertained to coaches' belief in their ability to effectively impact the psychological state of their athletes during competition. Technique efficacy (TE) was measured by six questions and referred to the confidence coaches have in their ability to accurately identify technical breakdowns in performance and effectively demonstrate and teach technical skills. Finally, character building efficacy (CBE) was measured through four questions and refers to the confidence coaches have in their ability to effectively induce positive changes in character traits such as attitude, sportsmanship, respect, and personal development. All 24 questions in the CES center on the leading question "how confident are you in your ability to…"?

Procedures

Approval to conduct this study was obtained from the Institutional Review Board (IRB) of Emporia State University (Appendix C). Five Midwest state soccer associations were contacted, via phone and email, explaining the purpose and procedures of the research and requesting their permission and participation in this study (Appendix D). Three of the five state soccer associations provided access to the USSF Level One coaching course (also commonly referred to as the E license) and allowed for the distribution of the CES questionnaire at these courses. Course participants were briefed (Appendix F) regarding the purpose of the study and were informed that all of the

research data collected would be strictly confidential and would only be used for research purposes. In addition, all participants completed an Informed Consent document (Appendix E) prior to participation in the study.

The first 30 minutes of the course, on the first day of the course, was dedicated to distributing and collecting informed consent and detailing the procedures for completing the CES questionnaire. Three days after the administration of the pretest, similar procedures were implemented in order to administer the posttest questionnaires. The posttest CES questionnaire was administered and completed during the course summary, which took place during the last 30 minutes of the course. Participants anonymously completed questionnaires. After completing the CES questionnaires, I instructed the participants to place their form in an envelope labeled "pre-test" or "post-test" on it. The same investigator performed the instructions and collection of data for each coaching course (Appendix F). It is noteworthy to mention that this course did not require an end of course exam. This was deemed important as it helped to reduce the influence of course testing on the ratings on the posttest CES questionnaire. Following the completion of the CES questionnaire, participants were debriefed and thanked. The data were collected during the months of January and February (2011).

Program Description

The USSF Level One course is a nation-wide entry level course designed specifically for volunteer youth soccer coaches. The course entails both practical and theoretical components and is administered over a three day period (Friday to Sunday). Each course is 18-hours in duration. The course is designed by the USSF and is recognized by the Fédération Internationale de Football Association (FIFA). FIFA is the

international governing association of the sport of soccer, also called football. The course, "is designed for the novice coach who may or may not have previous playing or coaching experience" (USSF, 2001-2005, p. 9). The curriculum focuses on the development of the player, both individually and as part of the team. The emphasis is to build on the player's technical development by applying tactical concepts within game situations. Additionally, during the completion of the course, coaches' review the course coaching manuals which addresses other pertinent components of coaching, methods of coaching, team management and administration, technical and tactical aspects of player development, care and prevention of sports injuries, laws of the game, among others. The traditional format for the course is a three day weekend (Friday through Sunday) program with four contact hours on Friday, seven contact hours on Saturday and seven contact hours on Sunday. Certification requirements for successful completion of the course are attendance at all field and classroom sessions.

Components of the USSF E license germane to the four dimensions of the CES include: (1) role of the coach; (2) laws of the game; (3) components of coaching soccer; and (4) psychological development of athletes. The role of the coach and laws of the game segment of the course concentrate on developing an understanding and respect for the laws of the game, sportsmanship towards opponents and officials, safe and fair competition, and provides guidelines and tools for coaches to develop the overall athlete. These themes should deepen coaches understanding of how to develop the character building efficacy of athletes. To develop technical efficacy and game strategy, USSF offers ten hours of practical field sessions designed specifically to enhance technical and tactical (i.e. game strategy) skills. These practical sessions help educate coaches on

soccer specific technical skill development, practice planning and management, and instruction on game tactics and strategies. During these sessions, coaches were used as the participants to execute the field sessions and are encouraged to exchange their ideas and experiences about training methodologies and skill development. Therefore, in addition to specialized instruction on the components of coaching soccer, the participants were provided with the opportunity to learn from fellow participants.

To develop motivation efficacy, USSF provides instruction on psychological development from an athlete development perspective. This component of the course provides instruction on, the importance of constructing a positive environment that motives athletes to learn, understanding that all athletes have different psychological needs and participate for varying reasons, factors that influence participation, the use of positive and negative feedback, and the importance of playing time. Emphasis is placed on the importance of being a positive role model, recognizing positive 'coaching moments' and using these to reinforce positive skill or behavioral performance. In theory, the USSF coaching course topics are pertinent to the four dimensions of the CES, therefore, has the potential to enhance a coaches' ability to optimize athlete development.

Design and Data Analysis

The current study employed a quasi-experimental design, because there was no random assignment of participants to groups. The dependent variables in this study were the four factors of the CES, all of which were continuous measurements. The only independent variables were within subjects (i.e. pre and post course scores). Therefore, the most appropriate statistical analysis in such a design was the paired samples t- test. All data were analyzed at the $p < 0.05$ level of significance.

CHAPTER THREE

RESULTS

The purpose of this study was to investigate the effects of the United States Soccer Federation's (USSF) introductory level coaching course on coaching efficacy levels in volunteer male and female soccer coaches. The participants in this study were volunteer youth coaches who coached in Midwestern soccer clubs and were completing a USSF Level One coaching course. This chapter presents an analysis of data obtained from the results of the study. Data collected from the participants was analyzed using a paired samples t-test with all data analyzed at the $p < 0.05$ level of significance. The results displayed in this chapter focus on the differences from pre- to post-test on the total Coaching Efficacy Scale score and the four subcategories of the CES which included technique, game strategy, motivation, and character building efficacy.

Participant Demographics

Ninety eight participants took part in the study. Incomplete data was obtained from eleven participants. Of those participants with incomplete data, most (n=9) had missing data on one or more of the 24 item CES questionnaire. The remaining participants (n=2) failed to complete the last day of the course and as a result did not complete the post course CES questionnaire. Missing data were viewed to be random as there was no noticeable pattern that explained the missing data. These participants' data were removed from analysis.

Complete data were obtained and analyzed from a total of eighty-seven (N=87) participants, eighteen (n=18) of which were female, and sixty-nine (n=69) were male.

The age of the participants ranged from 19-46 years (M=24). Participants had prior coaching experience in a variety of sports (e.g. football, volleyball, basketball, swimming), but the majority (n=78) indicated that soccer was the primary (the sport in which they invested the most time) sport that they coached. Prior playing experience ranged from youth club (n=51) to collegiate level (n=36) soccer.

Coaching Efficacy Scores

The means and standard deviations for the pre and post course scores on total coaching efficacy and each of the four dimensions are listed in Table 1. CES for total coaching efficacy and individual dimensions of coaching efficacy were analyzed using paired samples t test. In paired sample t tests, each data point in one sample is matched to a unique data point in the second sample. In this case, a pre-course and post-course study design in which CES for total coaching efficacy and each of the four sub dimensions were measured prior to and after completion of the coach education course.

Table 1

Pre- and Post-treatment Subscale Results (N=87)

CES Subscale	Pre-treatment	Post-treatment	Gain	t
CES Total	6.31±1.22	7.37±0.87	1.06±.088	-11.24*
Technique	6.21±1.46	7.43±1.00	1.07±0.93	-10.69*
Game Strategy	6.08±1.39	7.16±.0.99	1.07±1.03	-9.72*
Motivation	6.16±1.45	7.23±0.98	1.21±1.21	-9.29*
Character Building	7.11±1.26	7.91±0.87	0.80±1.11	-6.73*

Note. Values are mean ± standard deviation

*$p < 0.05$

Summary of Results Regarding Hypotheses

Hypothesis 1 used a paired samples t-test to determine the difference between pre- and post-testing on the total CES score following completion of the USSF coaching clinic. The results of the study indicated a significant difference did exist between pre- and post-testing on the total CES score ($t=-11.24$, $p<.05$).

Hypothesis 2 used a paired samples t-test to determine the difference between pre- and post-testing on the game strategy CES score following completion of the USSF coaching clinic. The results of the study indicated a significant difference did exist between pre- and post-testing on the total CES score ($t=-9.72$, $p<.05$).

Hypothesis 3 used a paired samples t-test to determine the difference between pre- and post-testing on the motivation CES score following completion of the USSF coaching clinic. The results of the study indicated a significant difference did exist between pre- and post-testing on the total CES score ($t=-9.29$, $p<.05$).

Hypothesis 4 used a paired samples t-test to determine the difference between pre- and post-testing on the technique CES score following completion of the USSF coaching clinic. The results of the study indicated a significant difference did exist between pre- and post-testing on the total CES score ($t= -10.69$, $p<.05$).

Hypothesis 5 used a paired samples t-test to determine the difference between pre- and post-testing on the character building CES score following completion of the USSF coaching clinic. The results of the study indicated a significant difference did exist between pre- and post-testing on the total CES score ($t= -6.73$, $p<.05$).

CHAPTER FOUR

DISCUSSION

The current study examined the effects of a coach education program, specifically the United States Soccer Federation (USSF) Level One coaching course, on coaching efficacy levels of volunteer youth soccer coaches. The Coaching Efficacy Scale (CES) was the instrument employed in the present study to assess coaching efficacy and is based on the conceptual model proposed by Feltz and colleagues (1999), which has a proven reliability through previous research (Feltz et al., 1999). According to the initial research conducted by Feltz and colleagues (1999), there were multiple variables that may have influenced coaching efficacy. These sources included coaching experience and preparation, prior success (e.g., win-loss record), perceived athletic ability, and perceived social support from the local community and parents. Coach education is considered a component of coaching experience and preparation within Feltz et al., (1999) conceptual model and is considered by some authors to be the most effective method of increasing coaching competency (Woodman, 1993). The purpose of this study, therefore, was to ascertain if a specific coach education program could significantly impact coaching efficacy levels and subsequently the extent to which coaches believed they have the ability to affect the learning and performance of their athletes, as measured by the CES.

Findings Regarding Hypotheses

It was hypothesized that post-course total coaching efficacy scores would significantly increase compared to pre-test scores as a result of completing the USSF Level One coaching course. This hypothesis was not rejected as results from this study

revealed that completion of the USSF Level One coaching course resulted in an increase in total coaching efficacy levels of volunteer youth soccer coaches. Consistent with previous research (Campbell & Sullivan, 2005; Malette & Feltz, 2000), a comparison of pre and post course scores revealed a significant increase in total coaching efficacy as a result of participating in this short duration coach education course. The current results supported the finding of previous research which suggested that short duration coach education course, with as little as 12 (Malete & Feltz, 2000), 13.5 (Campbell & Sullivan, 2005), and 20 contact hours, significantly impacted total coaching efficacy. Therefore, the USSF Level One course, similar to entry level coach education courses in other countries, appears to be a robust, reliable, and significant source of coaching efficacy.

Further, it was hypothesized that each of the four dimensions of coaching efficacy would significantly increase as a result of participation in the 18-hour practical and theory based coach education course. This was based on the assertion that the curriculum of the USSF Level One coaching course professes to educate, train, and deepen the coaches understanding in all four dimensions of coaching efficacy. Results revealed there was a significant increase from pre to post test in all four dimensions of coaching efficacy (i.e., technique, game strategy, motivation, and character development). Considering the structure and comprehensive curriculum employed by the USSF Level One course, an increase in all four subsets of coaching efficacy was not surprising. Conceivably, the increase in technique and game strategy efficacy was a result of participating coaches being exposed to various video analysis presentations and practical field sessions that address the topic of technical skill development and game strategy in a methodical and detailed manner.

It should be noted that the USSF Level One coaching course presented the course curriculum in a diverse manner (e.g., video, LCD projectors, classroom discussion, and field session participation). It is believed that this diverse approach to presenting course material allowed for a more effective connection with the diverse learning styles (e.g., visual learners, auditory learners, and kinesthetic learners) of the course participants.

Over 50 percent of the course was dedicated to educating coaches on how to identify soccer-specific technical breakdowns and how to train proper technique. There were field sessions which focused on educating coaches on all fundamental soccer techniques and basic game strategies. It is worth noting that the course participants were used to conduct the field training sessions, which is important, especially for kinesthetic learners, because it provided course participants with the opportunity to practice and develop a greater understanding of technical training under the direction of the course instructor. From the visual and auditory learner's perspective, a further 20 percent of the course was dedicated to presentations and classroom discussion focused on practice planning, technical skill training, and tactical (game strategy) training.

With respect to the topic of motivation and character building, these themes were addressed more intermittently and less extensively throughout the course. The psychological aspect (i.e. player motivation) of athlete development was discussed episodically during classroom presentations as well as during field sessions. The main point of discussion centered on the various ways in which to motivate players at different age groups. Course participants had the opportunity to learn not only from the course instructor but also from classroom discussions with fellow course participants.

The topic of character building (i.e., inducing positive changes in character traits such as attitude, sportsmanship, and respect) was the most surprising of all scores. It is worth noting that the topic of character building was specifically addressed during one classroom presentation, which centered on respecting officials and opponents. Although minimal course time was allocated to the topic of character building, based on the results this did not appear to limit the effect on course participants.

While these results, similar to previous research (Campbell & Sullivan, 2005; Lee, Malete which, & Feltz, 2002; Malette & Feltz, 2000), showed that coaches were more efficacious as a result of participating in coach education course, it is plausible that this increase in coaching efficacy may not exclusively have been the result of the course content. This course provided participants with opportunities to interact with other course participants, which may have also affected coaching efficacy levels. During the course, participants engaged in multiple classroom discussions and were encouraged to share their experiences, knowledge, and advice on how to deal with specific coaching situations.

Though the empirical research examining the effects of coach education programs on coaching efficacy was more limited, the results were consistent (Feltz et al., 2009). In some cases, similar to the current results, coaching education programs appeared to impact all four dimensions of coaching efficacy (Campbell & Sullivan, 2005; Lee; Malette & Feltz, 2000). In other cases, coach education programs have been shown to significantly affect specific dimensions of coaching efficacy (Lee, Malete, & Feltz 2002; Malette & Sullivan 2009). The current study, and results from previous research, supported the premise that coach education is a robust, reliable, and bona fide source of

coaching efficacy as measured by the CES. Therefore, it is reasonable to conclude that well-designed standardized coach education programs, such as the USSF Level One course, can significantly influence coaching efficacy.

Limitations of Study

The current study possessed a few possible limitations that should be acknowledged. First, although the current study supported the concept of coach education as a valid method of increasing coaching efficacy, it did not provide a direct assessment of the course effects on future coaching behavior and field based effectiveness. The lack of empirical research investigating the effectiveness of coach education in a practical setting is an area that must be examined further (Gilbert, 2006).

An investigation of this nature would help provide a deeper understanding of how much coaches apply the knowledge gained from attending and participating in coach education programs. Second, while the USSF Level One coaching course utilized a standard curriculum and all instructors were required to meet specific requirements, it is worth noting that the sample of study participants came from four different USSF courses located in three (Iowa, Wisconsin, Michigan) different states throughout the Midwest. It is plausible to assume that factors such as the varying leadership styles and educational backgrounds of the course instructors and access to varying levels of facilities and equipment could have impacted the quality of the learning environment. Third, the present study did not utilize a retention test; therefore, the results did not indicate whether the increase in coaching efficacy is temporary or remains over a period of time (e.g., a season).

Study Implications for Future Research

Even with these limitations, the results of the current study have important implications for coach education programming and provide a platform for future investigations. A direction for future research would be to examine whether increases in coaching efficacy translates into positive changes in coaching behavior and overall effectiveness. For example, a follow up study that incorporates player's observations and experience regarding changes in coaching behavior, as a result of the increased levels of coaching efficacy, could provide valuable insight.

In regard to the various USSF coach education course levels, it may be beneficial for future research to investigate if subsequent level courses engender similar increases in coaching efficacy. The USSF should be encouraged to see that the Level One course, which is the foundation of all remaining courses, serves its intended purpose of significantly increasing coaching efficacy. However, it may be of interest to examine if the Level Two and Three courses engender similar effects on coaching efficacy.

Subsequent level courses differ because they would involve more experienced and certified coaches and would expose coaches to more comprehensive content over extended periods of time. It would be of particular interest to see if exposure to more comprehensive coach education programs results in greater increases in coaching efficacy. Research of this nature would require the USSF and participants to cooperate on a long-term basis in order to garner a thorough examination of the course effects on coaching behavior. This type of assessment would help provide valuable insight into the effects of higher levels of coach education courses and would likely result in implications for the content and design of future coach education programs.

Finally, it would be of particular interest to investigate the short and long-term impact of the course. Future research could incorporate a retention test several weeks or months after participants have completed the course to see if the effects are temporary or more permanent. Research into these specific areas may prove useful for coach education planners by helping them be more effective in the selection of content for future coach education courses (Fung, 2003). In summary, research into the effects of coach education programs on coaching efficacy is still in its infancy and continued investigation is required in order to develop a more comprehensive understanding of the relationship between coach education, coaching efficacy and coaching behavior.

Study Conclusions

The primary objective of this research study was to expand on the limited existing body of research examining the relationship between standardized coach education programs and coaching efficacy, as measured by the CES constructed by Feltz et al. (1999). More specifically, this study examined the effects of the USSF Level One coaching course, on coaching efficacy levels of volunteer youth soccer coaches. This research assessed the influence of short duration coach education programs on total coaching efficacy and each of the four dimensions of coaching efficacy. Results from the current study, similar to previous research, supported the premise that coach education was a significant source of coaching efficacy. As previously noted, while the empirical research investigating the impact of standardized coach education programs is in short supply, the results are consistent (Feltz et al., 2009).

The major findings from this study supported the findings of previous research and suggested that standardized coach education programs have the capacity to

significantly impact total coaching efficacy and all four dimensions of coaching efficacy (Campbell & Sullivan, 2005; Lee; Malette & Feltz, 2000). As previously noted, research posits that highly efficacious coaches may be more effective because they engender more desirable outcomes for both athletes and coaches (Feltz et al., 1999; Kent & Sullivan, 2003; Kent & Sullivan, 2003; Myers, Vargas-Tonsing, & Feltz, 2005). Therefore, promotion of coach education for volunteer youth sport coaches is important because it can increase coaching efficacy levels, which may increase the coaches' capacity to positively affect the learning, development, and performance of their athletes.

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APPENDIX A

UNITED STATE SOCCER FEDERATION COACH LICENSING PROGRAM


U.S. SOCCER
LICENSE PROGRESSION
LEVEL 3
NATIONAL "A" LICENSE >>
"A" LICENSE RENEWAL
(CEU PROGRAM)
LEVEL 2
NATIONAL "B" LICENSE
LEVEL 1
NATIONAL "C" LICENSE
INTRODUCTORY LEVEL
"D" LICENSE
BASIC LEVEL
"E" CERTIFICATE
ADDITIONAL LICENSES
GOALKEEPING LICENSE
FITNESS LICENSE
YOUTH LICENSE
ADULT LICENSE

APPENDIX B

COACHING EFFICACY SCALE

Candidate Code #:_____ Test Type: PRE-course Test

Course Location: _____ Date: _____

Coaching efficacy refers to the "the extent to which coaches believe they have the capacity to affect the learning and performance of his/her athletes" (Feltz et al., 1999, p.765). Think about how confident you are as a coach. Rate your confidence (by circling a number) for each of the items below. Your answers will be kept completely confidential. How confident are you in your ability to…

	Not at all confident ← → **Extremely Confident**									
1. Maintain confidence in your athletes?	0	1	2	3	4	5	6	7	8	9
2. Recognize opposing team's strength during competition?	0	1	2	3	4	5	6	7	8	9
3. Mentally prepare athletes for game strategies?	0	1	2	3	4	5	6	7	8	9
4. Understand competitive strategies?	0	1	2	3	4	5	6	7	8	9
5. Instill an attitude of good moral character?	0	1	2	3	4	5	6	7	8	9
6. Build the self-esteem of your athletes?	0	1	2	3	4	5	6	7	8	9
7. Demonstrate the skills of your sport?	0	1	2	3	4	5	6	7	8	9
8. Adapt to different game situations?	0	1	2	3	4	5	6	7	8	9
9. Recognize opposing team weakness during competition?	0	1	2	3	4	5	6	7	8	9
10. Motivate your athletes?	0	1	2	3	4	5	6	7	8	9
11. Make critical decision during competition?	0	1	2	3	4	5	6	7	8	9
12. Build team cohesion?	0	1	2	3	4	5	6	7	8	9
13. Instill an attitude of fair play in your athletes?	0	1	2	3	4	5	6	7	8	9
14. Coach individual athletes on technique?	0	1	2	3	4	5	6	7	8	9
15. Build the self-confidence of your athletes?	0	1	2	3	4	5	6	7	8	9
16. Develop athlete's abilities?	0	1	2	3	4	5	6	7	8	9
17. Maximize your tams strengths during competition?	0	1	2	3	4	5	6	7	8	9
18. Recognize talents in athletes?	0	1	2	3	4	5	6	7	8	9
19. Promote good sportsmanship?	0	1	2	3	4	5	6	7	8	9
20. Detect skill error?	0	1	2	3	4	5	6	7	8	9
21. Adjust your game strategy to fit your teams talents?	0	1	2	3	4	5	6	7	8	9
22. Teach the skills of your sport?	0	1	2	3	4	5	6	7	8	9
23. Build team confidence?	0	1	2	3	4	5	6	7	8	9
24. Instill an attitude of respect for others?	0	1	2	3	4	5	6	7	8	9

APPENDIX C

EMPORIA STATE UNIVERISTY INSTITUTIONAL REVIEW

BOARD APPROVAL LETTER

EMPORIA STATE UNIVERSITY™

1200 Commercial
Emporia, Kansas
66801-5087

620-341-5351
620-341-5909 fax
www.emporia.edu

GRADUATE STUDIES AND RESEARCH
RESEARCH AND GRANTS CENTER
Campus Box 4003

January 12, 2011

Gareth Smith
HPER
5525 Vista Drive
Des Moines, IA 52055

Dear Mr. Smith:

Your application for approval to use human subjects, entitled "Examine the Effects of Coach Education Programs on Coaching Efficacy in Volunteer Youth Soccer Coaches," has been reviewed. I am pleased to inform you that your application was approved and you may begin your research as outlined in your application materials.

The identification number for this research protocol is 11033 and it has been approved for the period January 2011 to January 2012.

If it is necessary to conduct research with subjects past this expiration date, it will be necessary to submit a request for a time extension. If the time period is longer than one year, you must submit an annual update. If there are any modifications to the original approved protocol, such as changes in survey instruments, changes in procedures, or changes to possible risks to subjects, you must submit a request for approval for modifications. The above requests should be submitted on the form Request for Time Extension, Annual Update, or Modification to Research Protocol. This form is available at www.emporia.edu/research/docs/irbmod.doc.

Requests for extensions should be submitted at least 30 days before the expiration date. Annual updates should be submitted within 30 days after each 12-month period. Modifications should be submitted as soon as it becomes evident that changes have occurred or will need to be made.

On behalf of the Institutional Review Board, I wish you success with your research project. If I can help you in any way, do not hesitate to contact me.

Sincerely,

Robyn Long

Robyn Long
Chair, Institutional Review Board

pf

cc: Dr. Paul Luebbers

APPENDIX D

INVITATION LETTER TO STATE DIRECTORS OF COACHING

Dear State Director of Coaching:

My name is Gareth Smith and I am a graduate student at Emporia State University. I am conducting research in the area of Health, Physical Education, and Recreation. I have an extensive background in soccer as a former youth professional player, Olympic and Youth National team coach, Division I volunteer assistant, and State level coach education instructor. I am writing to ask for your assistance in a coach education and development research project (soccer specific) that is endorsed by Dr. Paul Luebbers and Emporia State University.

As my passion involves coaching the sport of soccer, my current research focus involves volunteer youth soccer coaches. I have the support of the United State Soccer Federation. As far as my research study is concerned, I would like to examine the effects of the USSF level one coach education course on the coaching efficacy levels of the volunteer youth soccer coaches who participate in your state hosted courses. In the field of soccer coach education, this research is the first of its kind in the United States. Results from this research will be made available to participating State soccer associations as well as participating coaches. This research study has the potential to provide valuable insight into the impact of coach education on volunteer youth soccer coaches and improve the effectiveness of the coach education programs.

Coaches participating in your state hosted USSF level one courses are being invited to voluntarily participate in this research project. Participation will involved completing a questionnaire before and after the course that should take approximately10 minutes. This study is design to ensure that participating coach's results on the questionnaire will be confidential.

I hope that you find this research study interesting and valuable. I look forward to your participation and believe that this study offers valuable insight that can be used to make coach education programs more effective. If you have any questions or desire further information about this study, please contact me, Gareth Smith, at 319-329-9299 or e-mail me at gsmith13@emporia.edu

Sincerely,
Gareth Smith
HPER Graduate Student
Emporia State University

APPENDIX E

INFORMED CONSENT FORM

The Department of Health, Physical Education, and Recreation at Emporia State University supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach. Likewise, if you choose not to participate, you will not be subjected to reprimand or any other form of reproach.

Purpose: The purpose of this study is to examine whether coach education programs serve their intended purpose of significantly increasing coaching efficacy levels in the candidates participating in the course. Participants in this study will complete the following assessments:

1. Coaching Efficacy Scale (CES) Questionnaire – prior to and after the course

Brief Description of:

1. **Coaching Efficacy Scale Questionnaire** - The CES questionnaire would be administered and completed, individually, prior to the beginning of the course and immediately after the course. The CES would be administered by the course instructors and would be voluntary and anonymous.

Risks: There is no risk to the participants for completing the questionnaire as all feedback is anonymous**.** Participants are free to withdraw at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

Benefits: This study will help determine whether or not coach educational courses have the desired effect on coaching efficacy. The purpose of this study is to examine whether coach education programs serve their intended purpose of significantly increasing coaching efficacy levels in the candidates participating in the course. An investigation of this nature could help to serve as a template for future examinations. Additionally, the information obtained could provide valuable insight for planning and possible changes to the structure and content of future courses to help make them more effective.

Compensation and Alternative: There is no compensation for participating in this study. Participants will have their test results explained to them. The alternative is to not participate in this study.

Confidentiality: Confidentiality of information about you gathered in connection with this study will be maintained in a manner consistent with federal and state laws and regulations. Although results of this research may be presented at meetings or in publications, identifiable personal information pertaining to participants will not be disclosed. Your confidentiality will be maintained by assigning you a code number.

Do you have any questions at this time?

Questions: In the future, you may have further questions regarding this research project. Please contact Gareth Smith via phone or email: 319-329-9299; gsmith13@emporia.edu

"I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and I assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

_____
Participant name, printed

_____ _____
Participant signature Date

_____ _____
Investigator signature Date

APPENDIX F

QUESTIONNAIRE COMPLETION INSTRUCTIONS

Dear coach:

The purpose of this research project is to examine the relationship between coaching education programs and coaching efficacy levels in volunteer youth soccer coaches. If you would like to participate in this study, please complete the following steps.

Pre-course steps:

1) Take a copy of the WHITE (pre-course) CES questionnaire.
2) Read the opening paragraph.
3) Complete the 24 questionnaire anonymously.
4) Review your questions to ensure you have fully completed the questionnaire.
5) Note the number (code) on the top right corner of the questionnaire as your post questionnaire will have the same number.
6) Once you have completed the questionnaire, place it back into the envelope provided and had it back to the course instructor.

Post-course steps:

1) Take a copy of the YELLOW (post-course) CES questionnaire.
2) Read the opening paragraph.
3) Complete the 24 questionnaire anonymously.
4) Review your questions to ensure you have fully completed the questionnaire.
5) Note the number (code) on the top right corner of the questionnaire and make sure it matches your pre-course number (code).
6) Once you have completed the questionnaire, place it back into the envelope provided and had it back to the course instructor.

Thank you for taking the time to complete this questionnaire and for your contribution to this research project.

APPENDIX G

PERMISSION TO COPY STAEMENT

I, Gareth Smith, hereby submit this thesis to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available to use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, digitizing or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author.

_____
Signature of Author

_____
Date

_____
Title of Thesis

_____
Signature of Graduate School Staff

_____
Date Received